



# Antamina:

## Overview & Peruvian Context

September 2010

<http://www.antamina.com>

# **Agenda**

**Antamina Overview**

**Peruvian Context**

**Operations & Operational Excellence**

**Value Creation & Expansion**



# Senior Management



Ian Kilgour

President & CEO

Abraham Chahuan

VP Operations

Pablo De la Flor

VP Corporate Affairs

Dave Splett

VP Finance

Allan Brownrig

Expansion Director

**Safety Briefing – Andino Hotel**

# Forward Looking Information



These slides and the accompanying oral presentation contain certain forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and comparable legislation in other jurisdictions. Forward-looking statements can be identified by the use of words such as “plans”, “expects” or “does not expect”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or “does not anticipate”, or “believes”, or variation of such words and phrases or state that certain actions, events or results “may”, “could”, “should”, “would”, “might” or “will” be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of Antamina to be materially different from future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements include statements relating to our future, production, sales, earnings and cash flow, statements as to management’s expectations, among other things, future supply, demand and prices, business and financial prospects, mine life and mineral reserves and resources, future trends, plans, strategies, objectives and expectations, including with respect to future operations and projects, demand and the sensitivity of Antamina’s earnings and cash flows to changes in prices, and overall financial results.

These forward-looking statements involve numerous assumptions, risks and uncertainties and actual results may vary materially. These assumptions include, but not limited to, general business and economic conditions, supply and demand for inventories, the level and volatility of prices of the metals and minerals produced by Antamina, operational and input price assumptions, ongoing relations with employees, partners and joint venturers, the future operational and financial performance of the company generally, and the accuracy of Antamina’s reserve and resource estimates (including with respect to size, grade and recoverability). There can be no assurance that Antamina will be able to convert such material to proven or probable reserves or extract such material economically despite the fact that a Qualified Person has calculated reserves in accordance with Canadian Institute of Mining definitions and guidelines.

# Competent persons



The Mineral Resource information pertaining to Antamina referenced on Slide 13 in this document is based on information compiled by Jhon Espinosa who is a Member of the AusIMM and a full-time employee of Compania Minera Antamina. Mr. Espinoza has sufficient experience which is relevant to this style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (The JORC Code). Mr. Espinoza consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

The Ore Reserve information pertaining to Antamina referenced on Slide 13 in this document is based on information compiled by Americo Zuzunaga who is a Member of the AusIMM and a full-time employee of BHP Billiton. Mr. Zuzunaga has sufficient experience which is relevant to this style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (The JORC Code). Mr. Zuzunaga consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.

# Shareholders and Structure



- Peruvian Company incorporated in 1996
- Shareholders
  - BHP Billiton 33.75%
  - Xstrata 33.75%
  - Teck Resources 22.50%
  - Mitsubishi 10.00%
- Operated as joint venture company with shareholders' approval



# Antamina Location

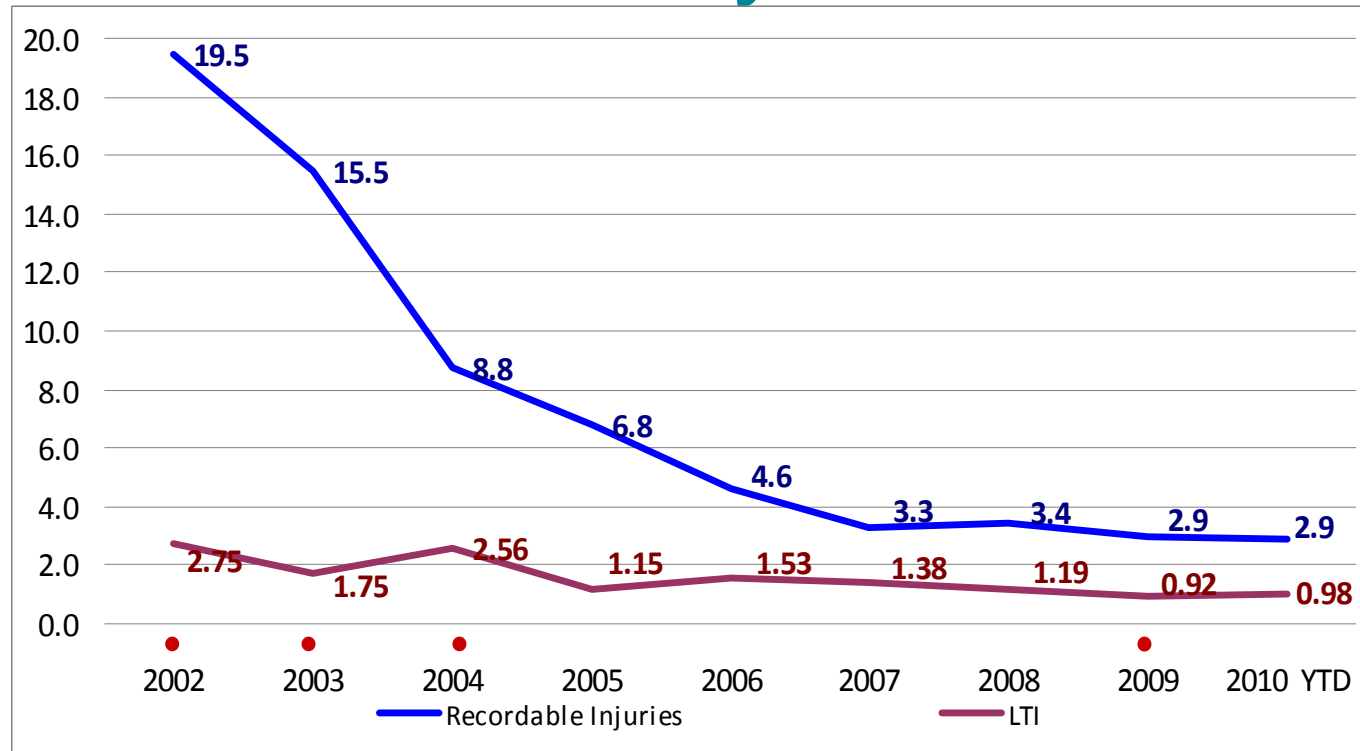
- 270 kilometres NE of Lima in Ancash region
- 4,200 to 4,700 metres elevation
- 302 km concentrate pipeline to Port Punta Lobitos
- Port near Huarmey, 300 km north of Lima
- Excellent Infrastructure



# Key Corporate Value: Management of Risks

- Emphasis on risk management; policies, systems, controls, and performance measures through SIGRA system (Enterprise Wide)
- Risk administration is integrated into operating processes and business practices: Risk Management Leader, Risk Governance Committee
- All Senior Management responsible for the management, control and follow-up on the risks in their respective areas.
- Identification, Management, and Remediation of risks is subject to regular internal and external audits:
  - Management & Shareholders
  - External experts (Independent Geotechnical & Tailings Review Board)
  - Insurers

# Key Corporate Value: Health and Safety



## Health & Safety Focus:

- Visible leadership & behavioural safety
- Toolbox safety meetings, job observations & procedural reviews
- Extensive Transport safety programs

# Mining Stability Agreement

- ☑ The Mining Stability Agreement - investment initiative established under the laws of Peru. In August 1998 Antamina was guaranteed 'stability' until 2016 and Agreement cannot be unilaterally amended.
- ☑ No restrictions on sales, exports, or currency limitations

## Specific economic features:

- Income tax rates of 30%
- Customs rates at 12% and 20% (12% for machinery/equipment)
- 18% VAT (IGV) on goods/services - netted against goods sold
  - Net effect is effectively zero
- Global rate of depreciation of 20% on fixed assets
- “Employee profit sharing” levy of 8% of IBT
- **The right to re-invest profits (Re-investment of Profits - ROP)**

# Voluntary Social Contribution

- Antamina's participation in a "voluntary contribution" program began in 2006 and runs through 2010.
- 3.75% of after-tax profits (tax book) to go into a development fund for Ancash province
- The agreement is in effect for each year that the LME copper price is over US\$1.79/lb and adjusted for US PPI
  - For 2009/10 the adjusted price threshold was ~\$2.00/lb

## ...After the Stability Agreement (2016+..)

- Corporate Income tax rate of 30% (no change)
- Mining royalty rate of up to 3% on gross sales less, TC's/transport/other (new)
- Customs rates at 0%, 9% & 17% applied to machinery, equipment and supplies (> 50% are subject to 0%) (Improvement)
- A 19% Value Added Tax (IGV) netted against value of goods sold (no change)
  - Net effect continues to be effectively zero
- Annual maximum depreciation rate of 20% on mining machinery/equipment and 5% on buildings (minor change)
- Legislated “employee profit sharing” of 8% of IBT with excess paid to the Peruvian Government (no change)

# Antamina Operations – Vast Resources



**A Major skarn deposit: Cu, Zn, Ag, Mo, Pb, Bi**

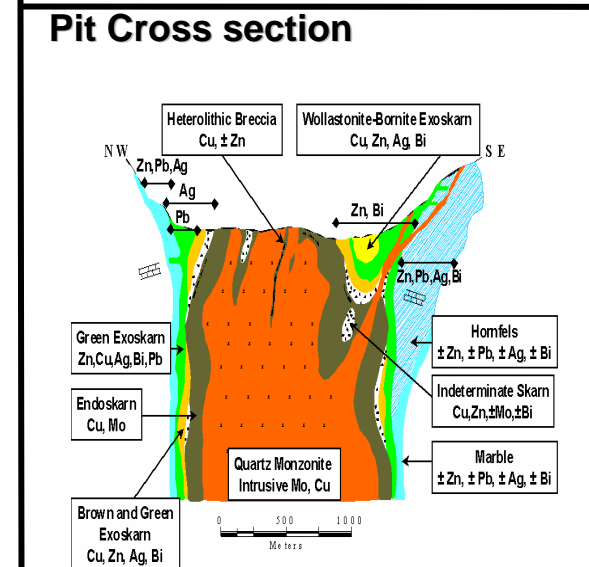
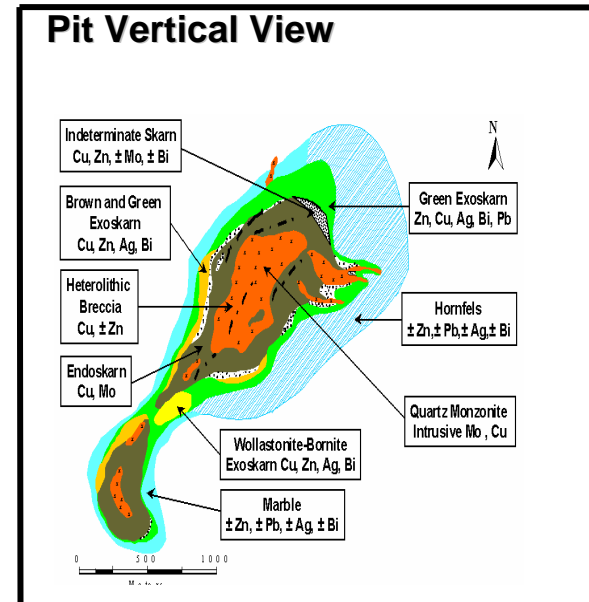
- **World Class Resource**
- **Mine plan extends past 2030**
- **Extensive mineralogy in, and around pit**



# Antamina's Mineral Resources (100% Basis)



<u>New Reserves - Jul 1/08</u>	<u>Ore (MMt)</u>	<u>Cu (%)</u>	<u>Zn (%)</u>	<u>Ag (g/t)</u>	<u>Mo (%)</u>
Proven Copper Ores	100	1.14	0.17	8.7	0.036
Proven Copper Zinc Ores	42	0.99	2.30	19.5	0.009
Probable Copper Ores	454	1.05	0.17	9.7	0.031
Probable Copper Zinc Ores	149	1.05	2.07	17.9	0.008
<b>Total P&amp;P Reserves</b>	<b>745</b>	<b>1.06</b>	<b>0.67</b>	<b>11.7</b>	<b>0.026</b>
<u>Prev. Reserves - Jan 1/08</u>	<u>Ore (MMt)</u>	<u>Cu (%)</u>	<u>Zn (%)</u>	<u>Ag (g/t)</u>	<u>Mo (%)</u>
Proven Copper Ores	48	1.15	0.19	8.8	0.037
Proven Copper Zinc Ores	28	1.07	3.16	22.6	0.009
Probable Copper Ores	257	1.10	0.15	9.7	0.035
Probable Copper Zinc Ores	87	1.14	2.68	19.1	0.009
<b>Total P&amp;P Reserves</b>	<b>420</b>	<b>1.11</b>	<b>0.88</b>	<b>12.4</b>	<b>0.028</b>



	<u>Ore (Mt)</u>	<u>Cu (%)</u>	<u>Zn (%)</u>	<u>Ag (g/t)</u>	<u>Mo (%)</u>
Measured Copper Ores	111	0.92	0.15	7.4	0.038
Measured Copper Zinc Ores	50	0.79	1.81	15.9	0.013
Indicated Copper Ores	572	1.00	0.16	9.3	0.029
Indicated Copper Zinc Ores	156	1.06	1.91	17.2	0.008
<b>Meas. + Indicated Resources Total</b>	<b>889</b>	<b>0.99</b>	<b>0.56</b>	<b>10.8</b>	<b>0.026</b>
Inferred Copper Ores	487	0.83	0.13	9.7	0.017
Inferred Copper Zinc Ores	93	0.86	1.60	15.7	0.006
Inferred Resources Total	580	0.84	0.37	10.7	0.015
<b>Total Resources (Jan 1, 2010)</b>	<b>1,469</b>	<b>0.93</b>	<b>0.48</b>	<b>10.8</b>	<b>0.022</b>

# Antamina Operations - Mine



- 4 shovels, 4 loaders, 54 Trucks (CAT 793)
- ~ 400,000+ tonnes moved per day
- Gyratory crusher in base of pit



8 ore types and simplified into  
3 basic classifications:

- Cu only ores (M1, M2, M2A)
- Cu/Zn ores (M4A)
- Bornite (M5, M6)

Material moved:

150+ mmt / yr

# Antamina Operations - Concentrator



- Batch processing of Cu and Cu/Zn ores – Design feed rate of 70,000 tpd, recent records of 130,000 tpd
- SAG mill and 3 ball mills, with sequential flotation of Bulk Cu and Zn concs.
- Bulk Cu concentrate is further treated to produce a Mo. Conc or Pb/Bi conc.

## Products

- Cu and Zn Concs
  - Moly and Pb/Bi Conc
  - Ag credits
- 
- Cu and Zn concentrates by pipeline to port
  - Mo and Pb/Bi concs bagged & transported by road



# Antamina Operations - Port

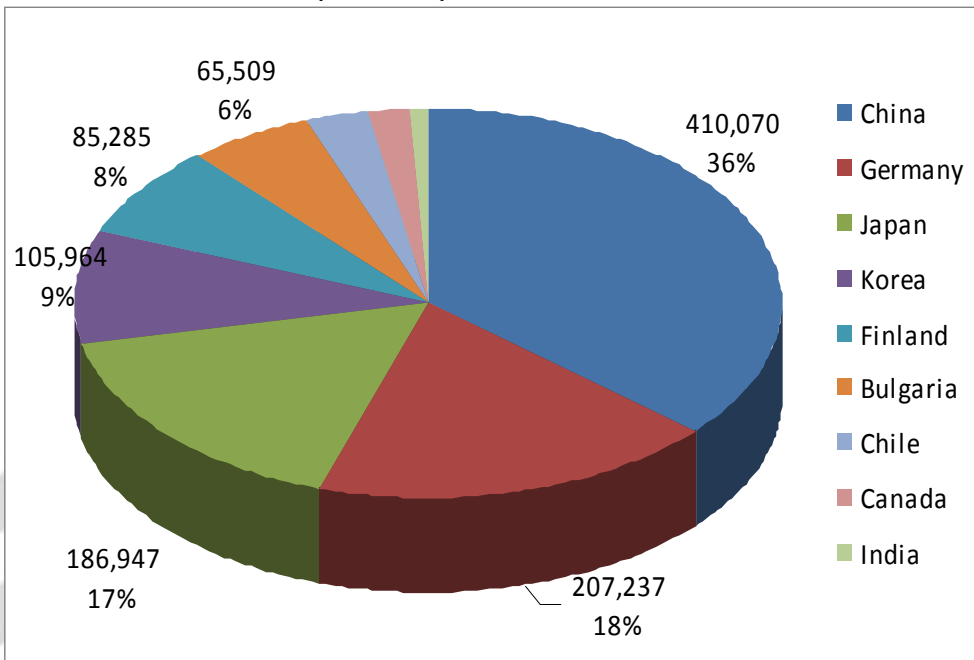
- 302 km pipeline feeds to storage tanks
- Pressure filtration – Larox filters
- Water treatment produces clean water for 177 Ha forest project
- Storage for 160,000 tons of dewatered concentrate
- Ship loader with 1,400 tph capacity on continuous basis
- 28 metre docking depth & 50,000 ton ship capacity



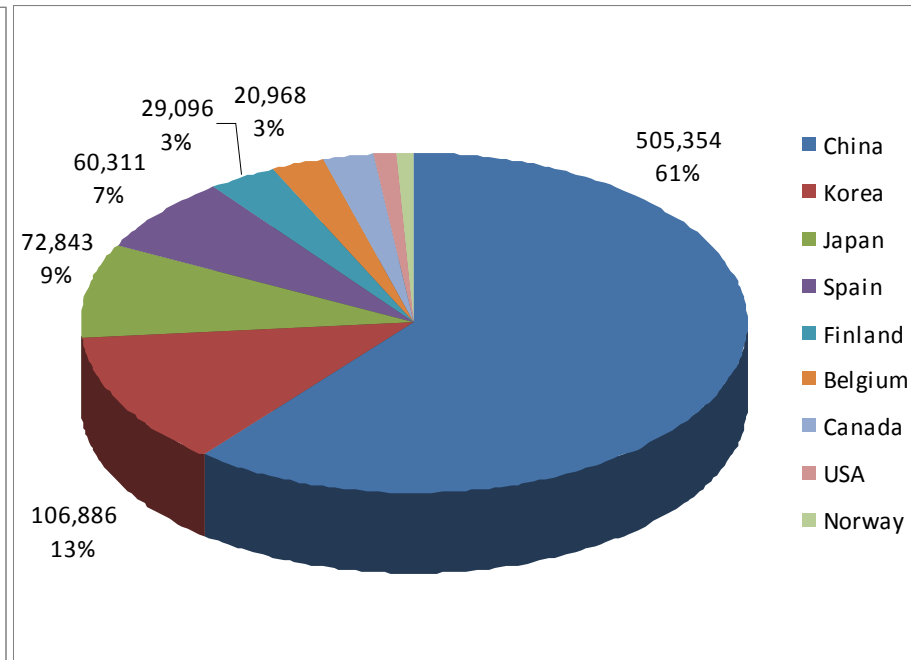
# Sales Profile - 2009

- ~ 75% of sales to 12 Long-term customers
- Remaining tonnes sold under spot and short-term Contracts
- Long-term Sales contracts expire in 2014 (will not be renewed)

Cu concs (dmt's)



Zn concs (dmt's)



# Community & Political Overview

# Political & Economic Overview



## ***Economy has resumed rapid growth***

- GDP growth expected to reach 7.5% this year (vs. 1% growth in 2009).
- Low inflation (below 2%), but some fears of overheating
  - (growth in July was close to 10%)
- Fiscal stimulus measures will be rolled back in second half of the year.

## ***Candidates preparing for upcoming elections***

- Electoral campaign for the Regions and Municipalities in its last stage.
- New rules come into effect for Regional races: two-round contest if winner does not obtain 30% of votes. Authorities likely to secure broader support & legitimacy.
- Elections in the rest of the country dominated by ad-hoc Regional coalitions and groups.

# Political & Economic Overview



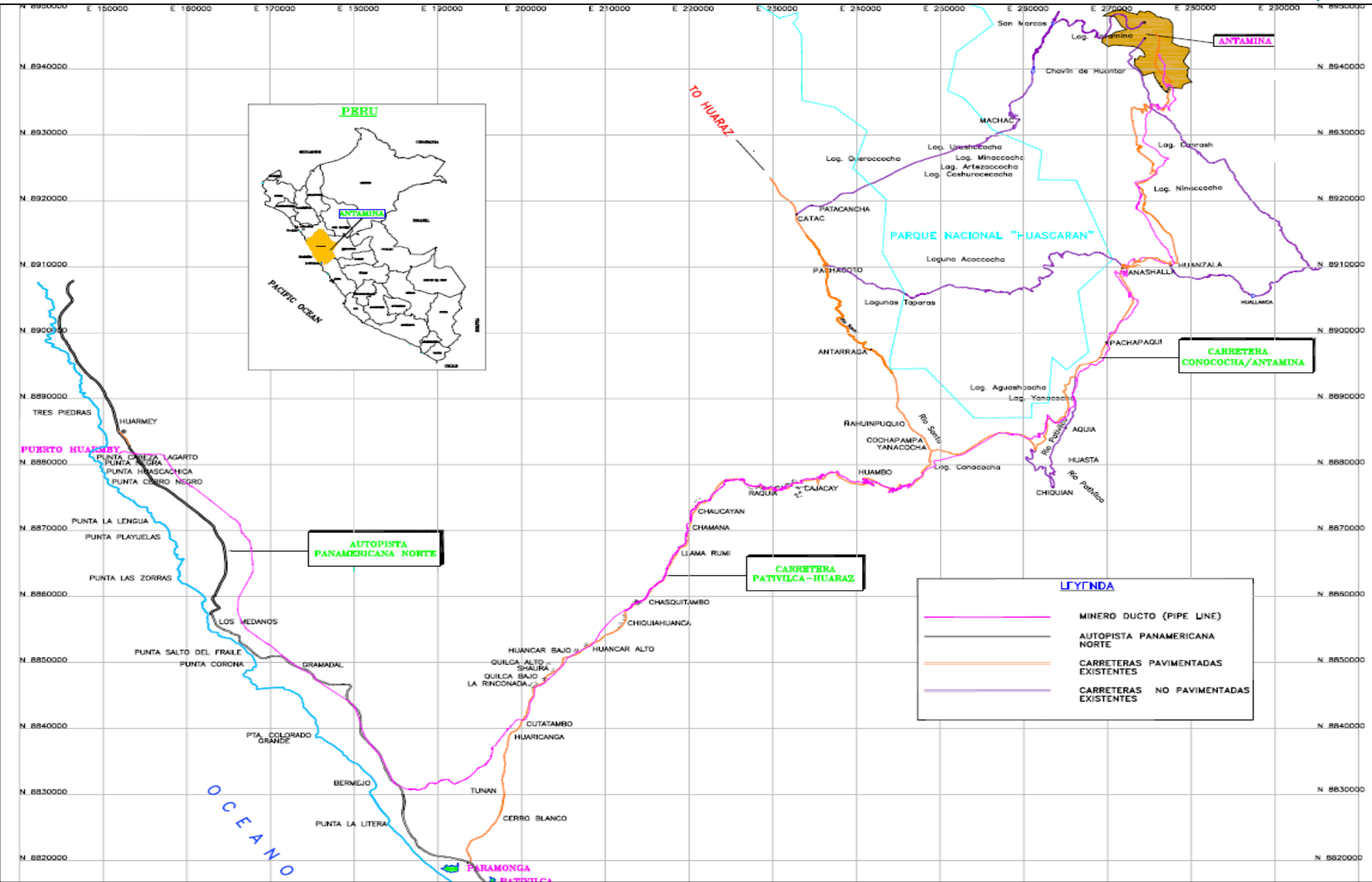
## ***Social conflicts & political mobilizations...an on-going concern...***

- Social conflict continues to be the most important challenge for the implementation of mining projects
- Other operations impacted by social issues
- However, two EIA consultation processes successfully completed

## ***In Ancash Region...***

- President Cesar Alvarez lead in the polls has eroded as a results of various corruption scandals.
- In San Marcos, 13 candidates competing for office.

# Antamina's Area of Influence



# Social Responsibility Structure



## Antamina Management and Employees

- Local employment & Training
- Local Purchasing

## Asociación Ancash (Antamina and external directors)

Local and regional area

- Tourism
- Culture
- Environment

## Community Relations & Environment Departments

Operational area

- Communication
- Trust & Confidence
- Meeting Commitments

**SOCIAL  
RESPONSIBILITY**

## Antamina Mining Fund (Antamina & External Advisors)

Education, health and nutrition, productive development, capacity-building at a local and regional level.

# Antamina's Mining Fund



"Mining Program of Solidarity with the People" created in Dec 2006 for 5yr life

3.75% of after-tax profits – tied to copper prices

- ✓ Antamina's contributions (\$208 million) represents ~40% of industry total
- ✓ Managed by Antamina as an independent organization (resources do not return to the company)
- ✓ FMA partners with communities through provincial and regional consultation
- ✓ Projects are contributing to improve the Human Development Index and to reach the Objectives of the Millennium (UN)

Program	Committed \$US mm	%	Disbursed \$US mm	%
Education	39.9	20.4%	19.6	14.1%
Health and Nutrition	43.8	22.4%	34.1	24.6%
Institutional capacity building, Infrastructure	77.2	39.4%	56.8	41.0%
Economic Development	26.5	13.5%	20.1	14.5%
Overhead / Other	8.4	4.3%	8.1	5.8%
<b>TOTAL</b>	<b>195.8</b>	<b>100.0%</b>	<b>138.7</b>	<b>100.0%</b>

# Health / Nutrition: Achievements

- Alli Micuy (Caritas-Adra): reduced chronic malnutrition 6.9% in 31,000 children in 129 districts. Increased vaccination from 76% to 96% and childbirths in health establishments from 59% to 83%
- Mama-Wawa (CARE): trained 725 professionals in emergency neo-natal procedures (EON). Implemented 15 emergency attention networks.
  - ✓ Childbirth mortality reduced from 19 to 11; neonatal mortality reduced from 382 to 340/10,000
- Antamina Jampy: 91,000 health visits and 23,000 specialized visits in distant and underserved communities.
- Provided supplementary nutrition to 36,000 children served by State sponsored breakfast program.



# Education: Achievements

- 160 schools repaired or rebuilt, 12 new pre-schools, 88,000 student desks manufactured locally, & 2,000 teachers trained through various FMA programs.
- Trained 119 youth in technical careers, and improved education in 65 technical schools
- Hatun Yachay (CARE), Right to Play & Integral School Networks (IPAE): improvements in the access to and quality of education at pre-school, elementary and high-school levels.
  - ✓ 170 schools, 12,000 students
  - ✓ 1st Yr: reading & comprehension improved 8% in 100 rural schools.



# Productivity & Infrastructure: Achievements



- PARA (co-financed by Clinton-Giustra): 4,200 jobs created and \$9mm in sales
- Alli Allpa (CARE): 2,000 jobs created and 35% increase in sales of select produce
- Small Business Competition: & 2,000 new jobs created in 62 initiatives and sales of \$4mm
  - ✓ 18 tons of trout sold to EU market
  - ✓ 120% improvement in the productivity of corn growers in Callejón de Huaylas
- \$ 26.5mm committed in 20 municipalities - 76 projects completed for water, sanitation and irrigation
- Conchucos connected to national grid with benefit to 400+ towns and communities, and completed design for construction/rehabilitation of 1,160 km. of roads.





# **Antamina:**

## **Operations, Expansion & Value Creation**

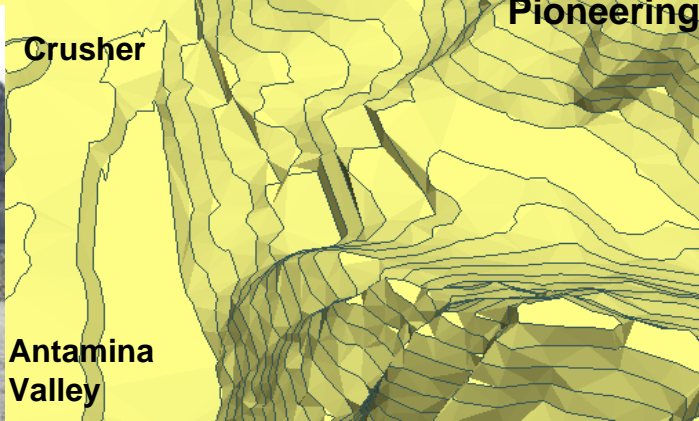
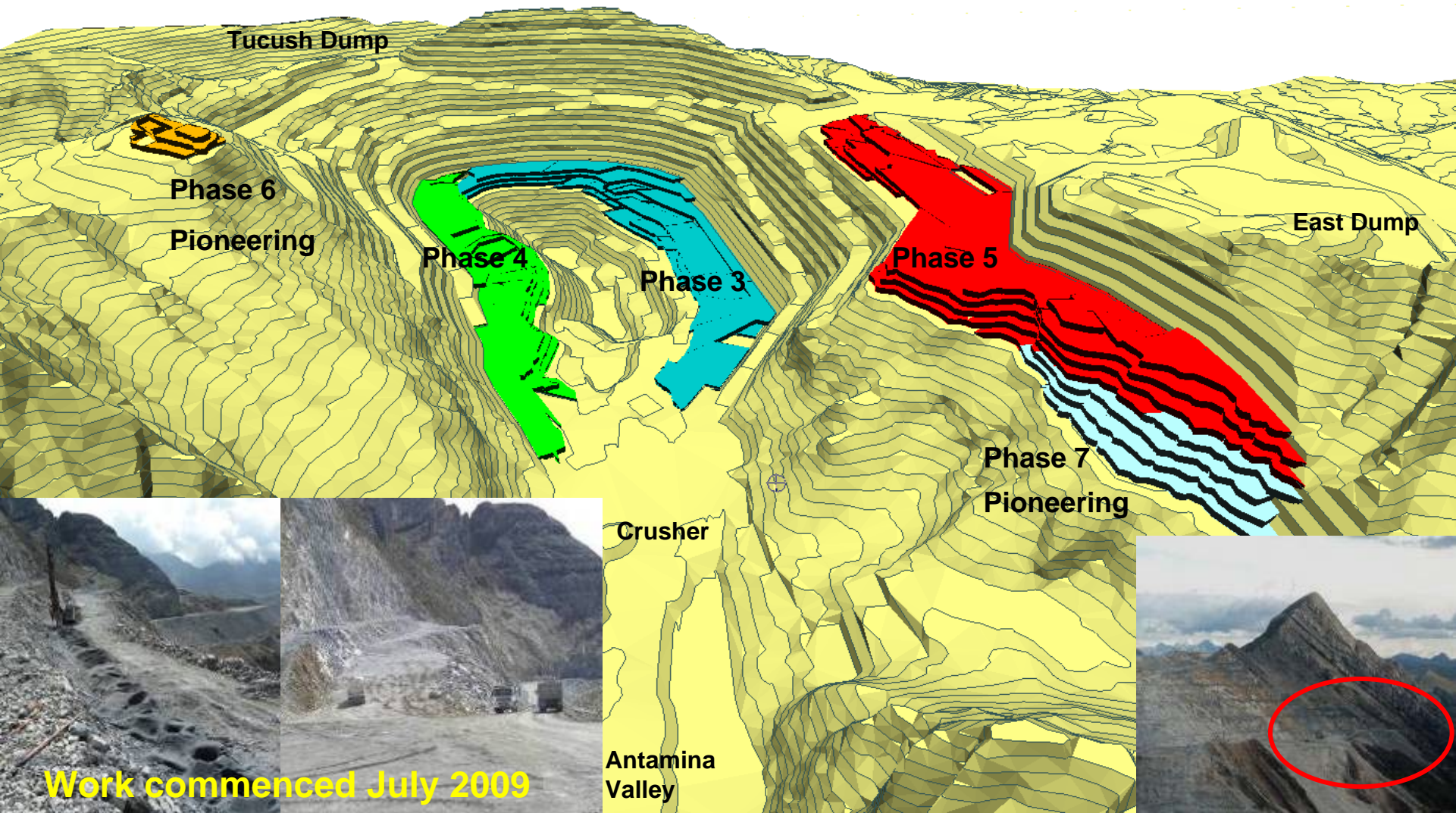
**September, 2010**



# Mine Operations - Pit status end 2010

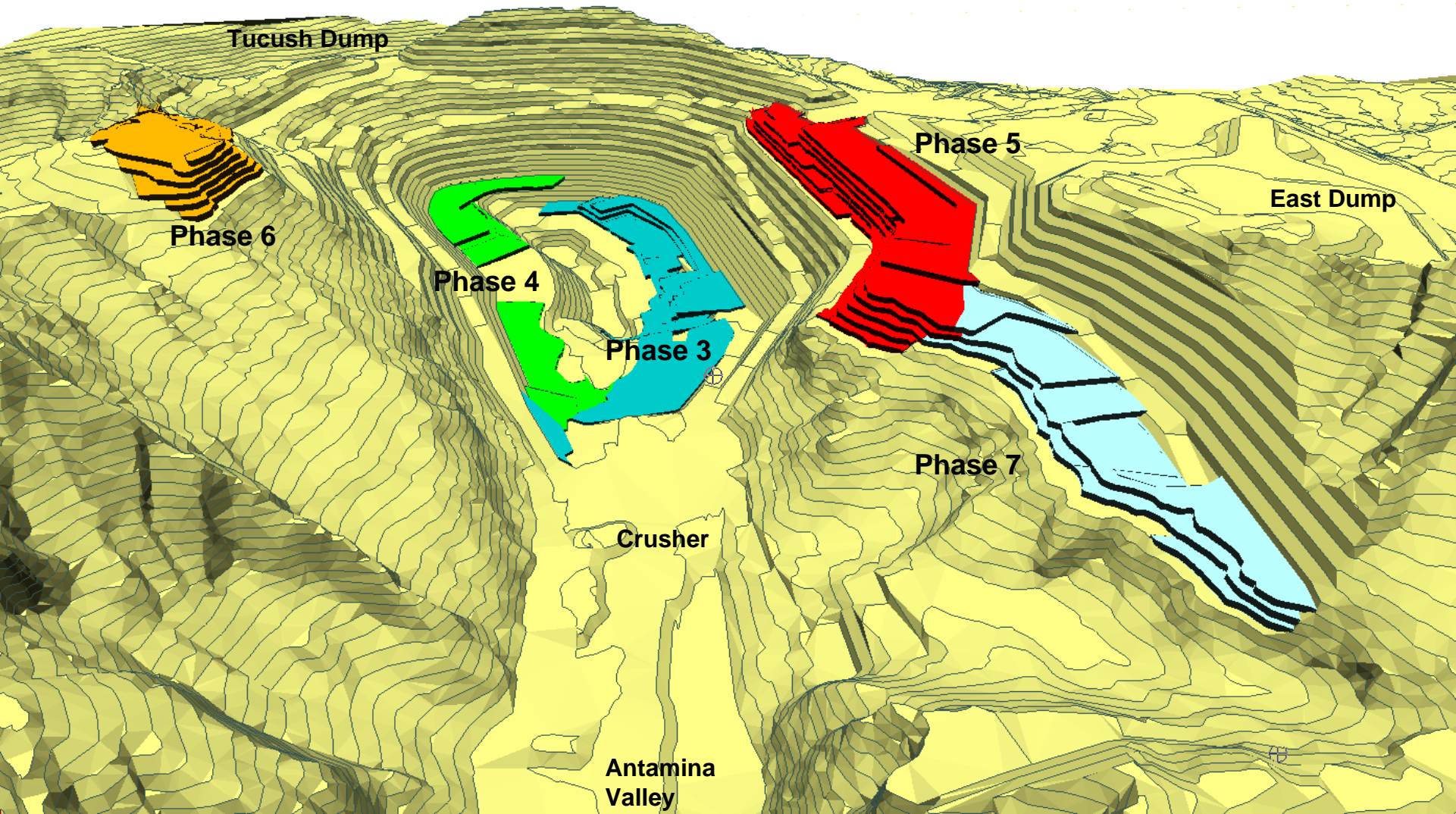


Extensive Pit and Dump development activities



Work commenced July 2009

# Pit status end of 2011

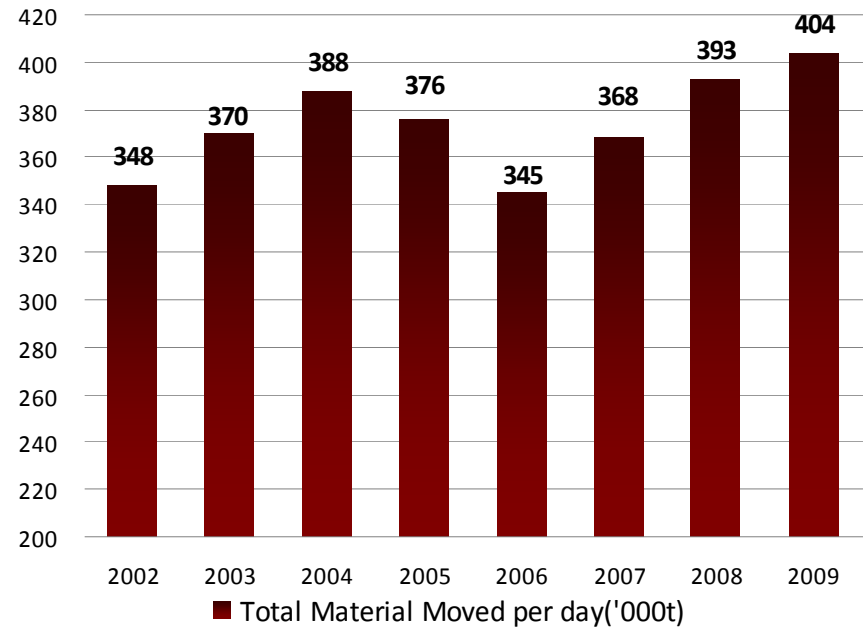
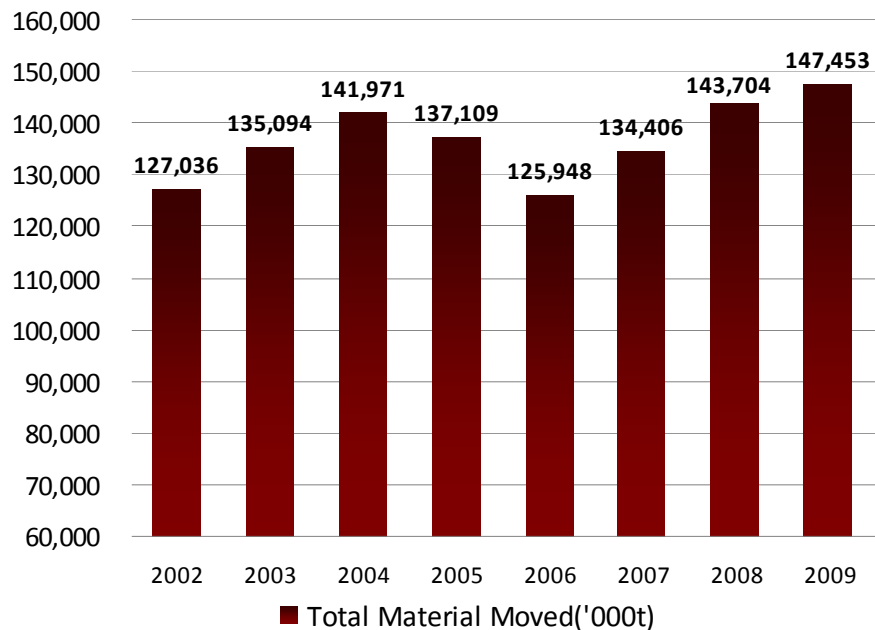


# Mine Operations



## Mine Production Records:

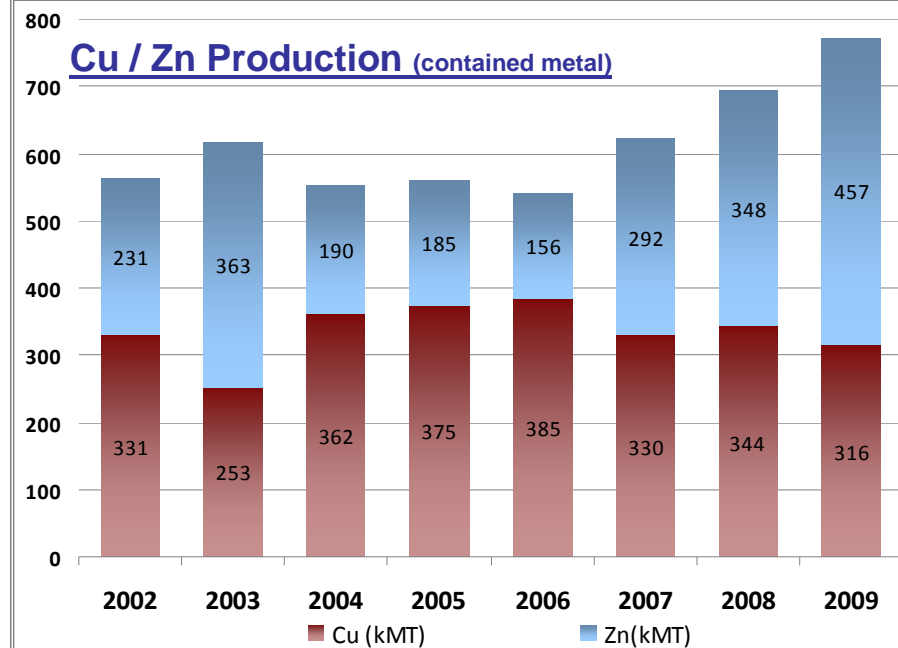
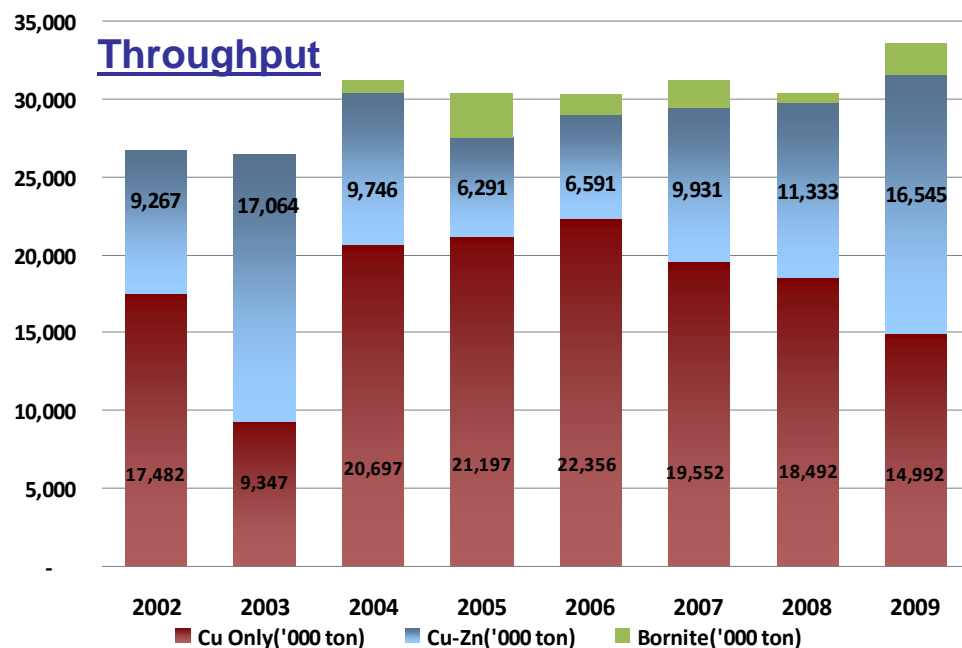
2009	Tonnes Moved in a year	147.5 mmt
2009	Avg tonnes moved per day	404 kmt
2010 (May, Aug)	Tonnes moved in a month	13.7 mmt



# Mill Feed & Concentrate Tonnes

## Mill Production Records:

2009	Throughput - yearly	147.5 mmt
2010 (Jan, May, Jul)	Throughput - monthly	3.37 mmt
2010 (Jun, Jul, Jul)	Throughput - daily	132,040 mt
2010	Throughput records	M1, M4A, M5

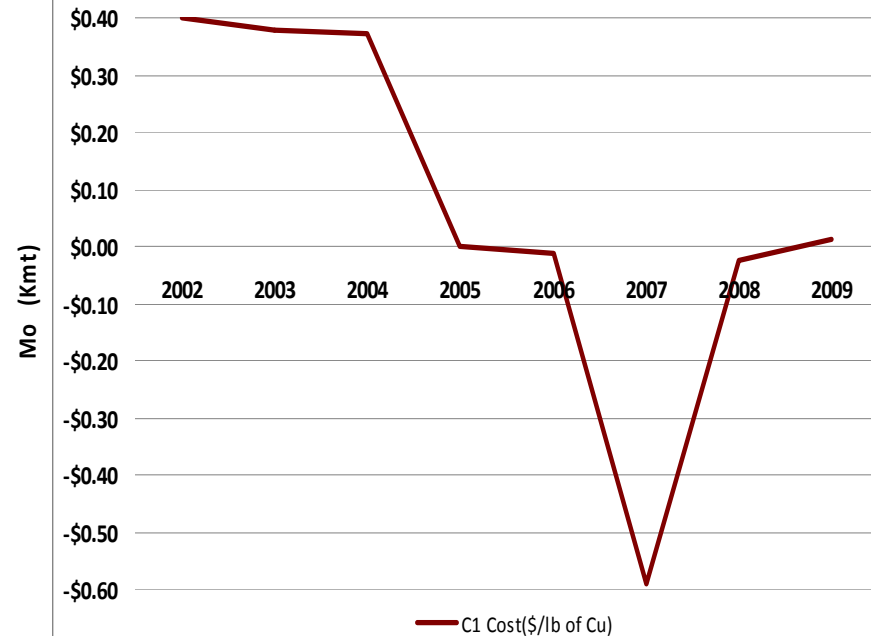
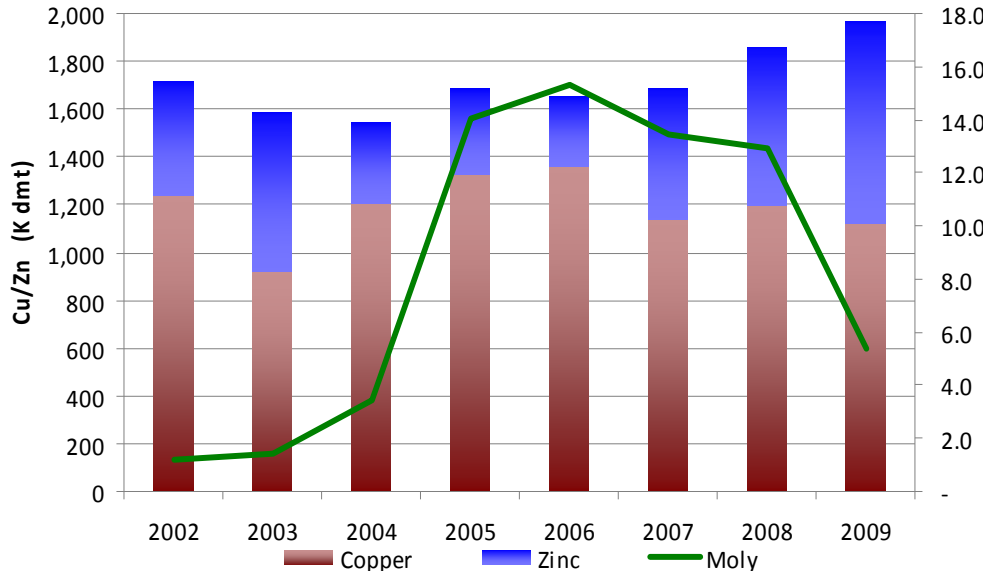


**Program to treat oxidized phase 4 Cu/Zn material completed in 2010**

# Sales Volumes & C1 Cost

- Zinc production tracks well with Cu/Zn ore treatment and head grades
- Zinc production volumes track feasibility study - production was to peak in 2008-2010 timeframe
- Moly production increases with pit development & treatment of more Cu only ores

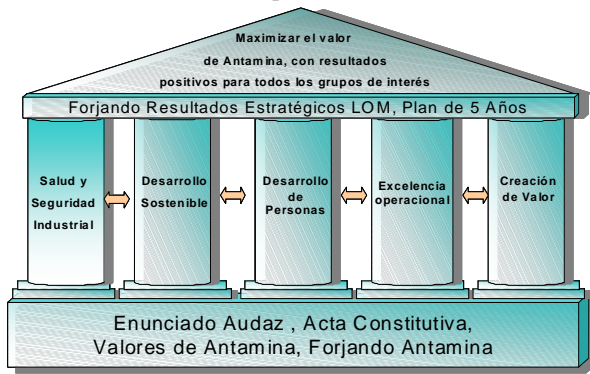
### Historical Sales



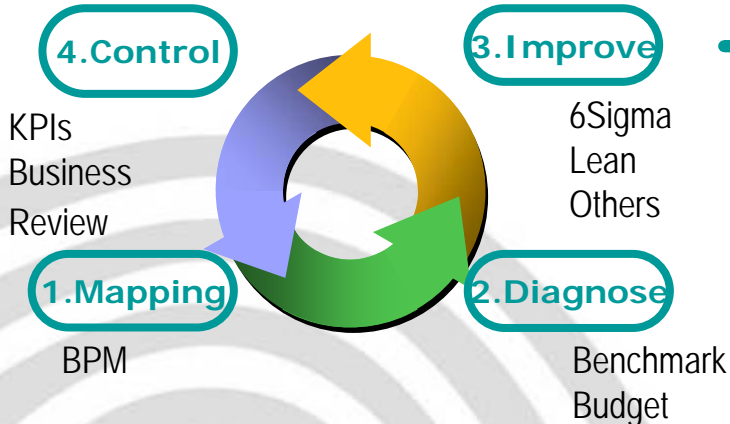
# Demonstrated Performance



## Operational Excellence Model



Continuous Key Process Improvement



2010 EBIT impact from current & past year projects: ~ \$50mm

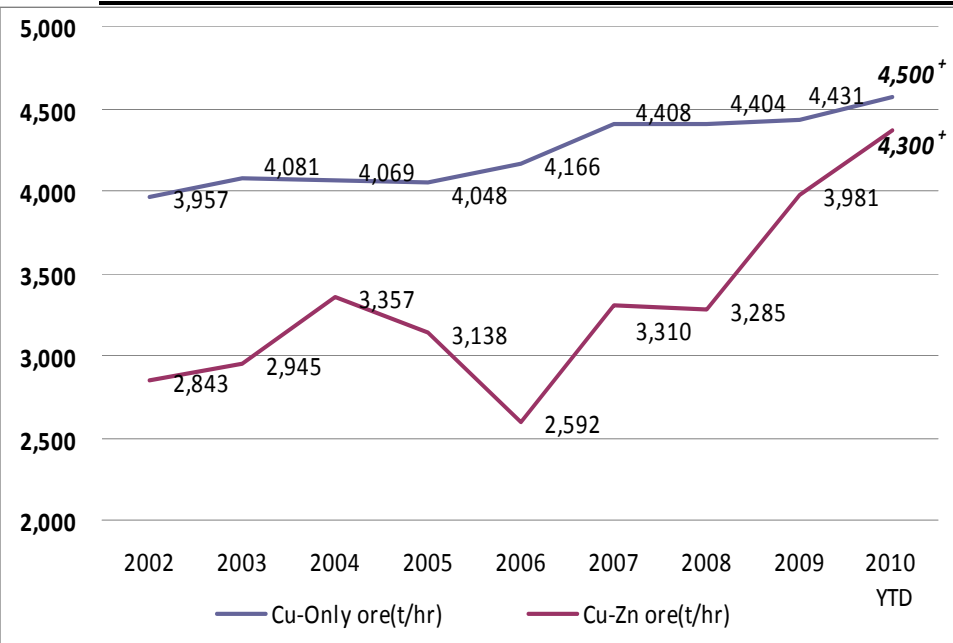
Current Projects	Benefit
Reduction of Shovel shutdown due Gets changes.	Throughput Increase
Increase production during first and last hours in Hauling process at Mine.	Throughput Increase
Reduction of Trucks queue time in Shovels.	Throughput Increase
Reduction of fuel consumption on 793 Cat fleet - Turning engines off.	Cost Reduction
Reduction of pickup time of Trucks after maintenance.	Throughput Increase
Reduce the absentism rate in Mine operations.	Throughput Increase
Reduction in Insurance cost	Cost Reduction
Cavex Cyclones	Quality Improvement
Maximize the use of Expert system in rougher Cu.	Throughput Increase
Bi ppms margins optimization in shipments.	Quality Improvement
Mine to Mill	Throughput Increase

# Demonstrated Performance

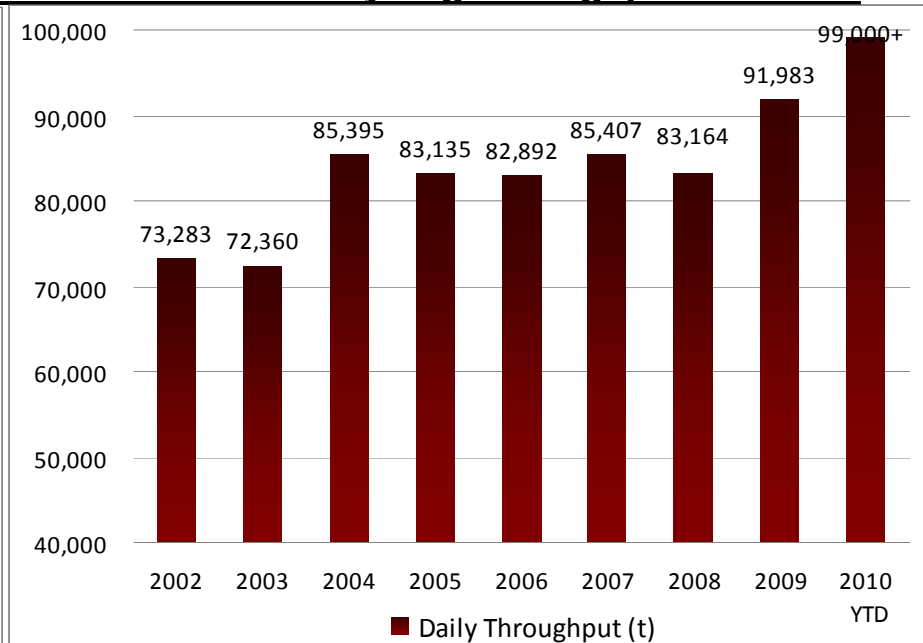
- Mine to Mill project: modified blast pattern & improved rock fragmentation
- SAG bypass feed system & Implementation of pebble crusher
- Modifications to grate sizes in SAG, trommel screens, and pulp lifter - further increases throughput reduces recirculation

✓ **Cumulative EBIT improvement: ~ \$400mm**

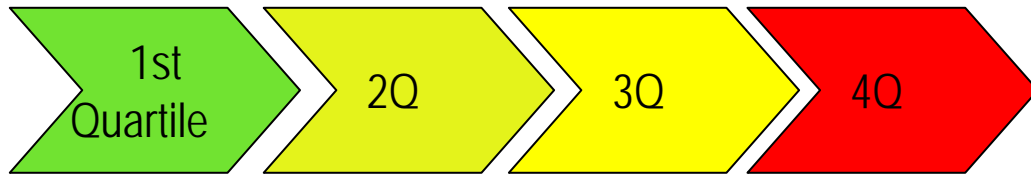
**SAG Mill TPH**



**Daily Avg Throughput**



# Benchmarking Antamina

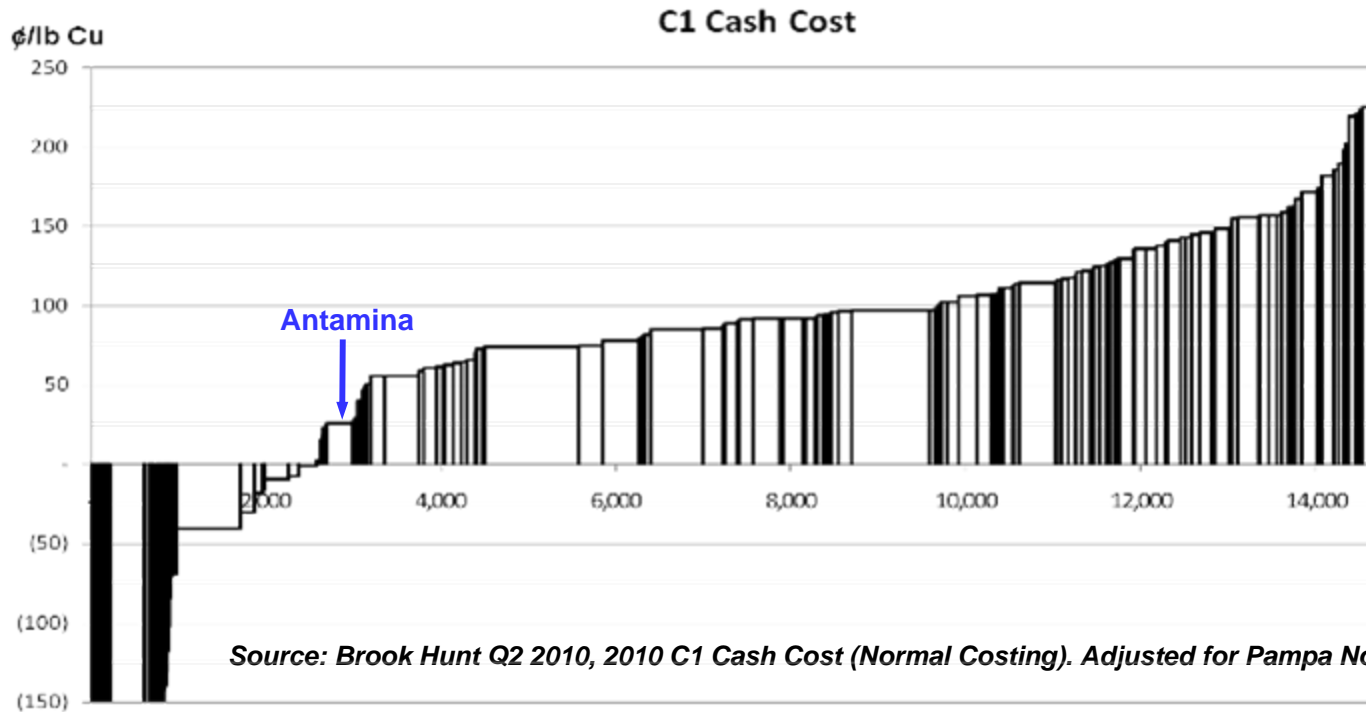


Quartile	Antamina Placement
1st	15
2nd	15
3rd	6
4th	0
<b>TOTAL</b>	<b>36</b>

KPI	Ranking Antamina
Energy Consumed per Lb of Cu	1
Total Cost/lb Cu	1
Cost C1P	1
Cost C1	1
Cost C2	2
Cost C3	1

KPI	Ranking Antamina
Concentrator Milling Costs	2
Total Costs - Concentrator	2
Unit Costs - Crushing	2
Copper production per person	4

# Base Metals Assets Cost Position



Cumulative Production (Kt)

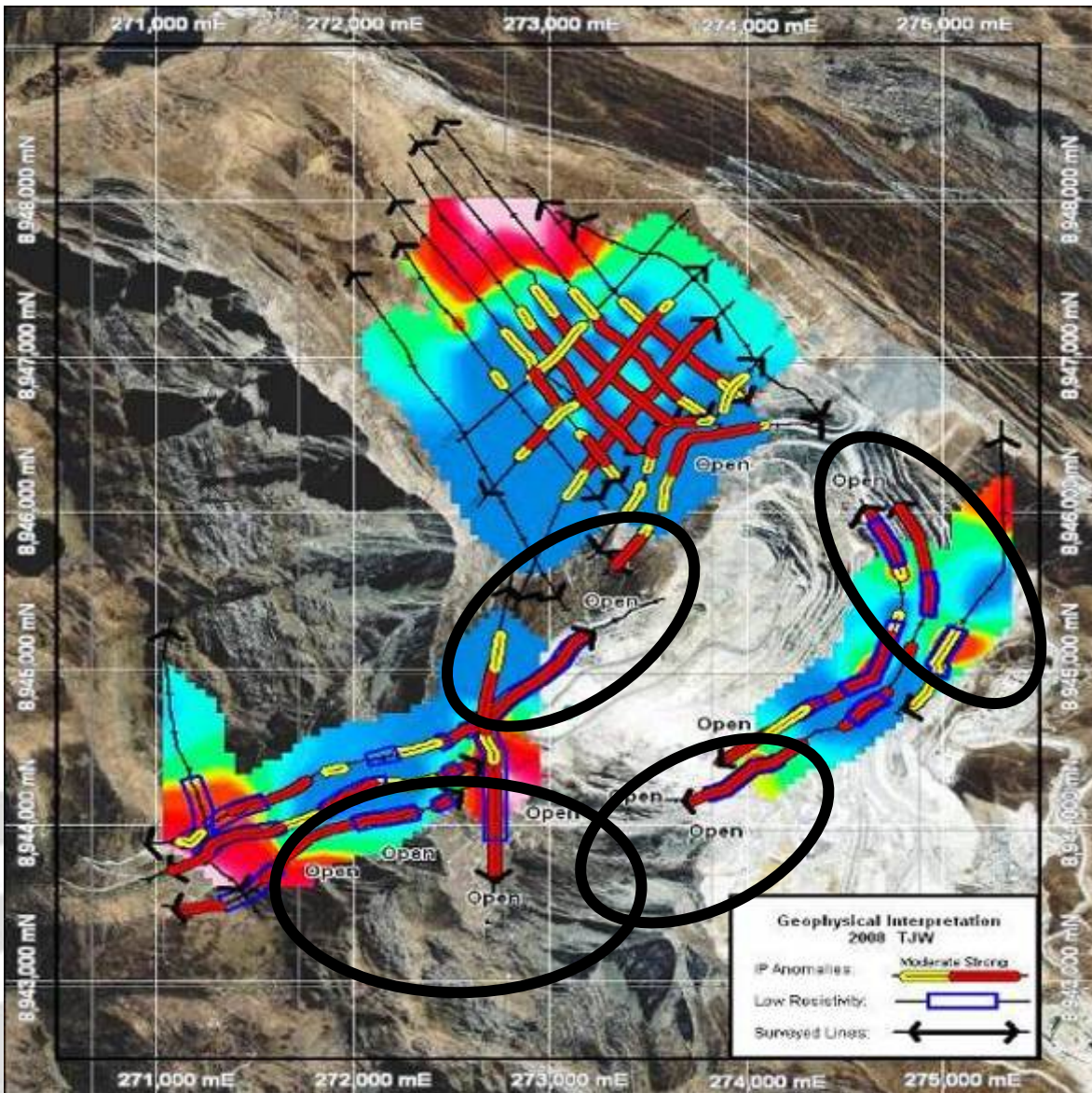
Element	Year 2010	Annual Impact (\$mm)
Copper Price	1¢/Lb	\$6
Zinc Price	1¢/Lb	\$6
Thruput (Cu/Zn ore)	100 tph	\$24
Fx – Sol/\$Us	0.1 S/\$	\$4



# Antamina's Growing....



# 2007-2008 Geological Survey



- 220 km of drill holes in 07/08 - 50% used for Reserve/Resource increase
- Numerous in-pit targets
- Various deep targets
- Significant # of targets around mine
- Continued pit expansion potential
- More drilling and survey work required

# On-going Drill Program Objectives

## Planned Drill Program

	<u>2011-15</u>
<b>In-Pit</b>	40,000+
<b>Deep In-Pit</b>	10,000+
<b>Near Mine</b>	60,000+

## Drill Program Objectives

- Identify/define added resources & extend LOM
- Reserves conversion
- Support & optimize mine production increases
- Optimize placement of changing infrastructure
  - Expanded pit & waste dumps
  - Facilities expansion
  - Crusher relocation in future

# Expansion Business Case

- § Expansion builds upon demonstrated processes, technologies, and existing infrastructure. Original facility design contemplated a future expansion
- § Expansion is contained within the existing footprint of the land title
- § Expansion presents an opportunity to significantly improve molybdenum recovery and concentrate grade as the deposit transitions to a Cu-Mo resource
- § The expansion provides for mitigation against the production continuity risk with 2 lines of production
- § The expansion is permitted under a modification of the existing Concesión de Beneficio

**Latest EIA has been presented in public hearings without significant issues**

# Expansion Program - Scope



Program: 130 K tpd @ 911 MT

Start Construction: Jan 2010

SAG 02 Commissioning: Q4 2011

## Elements:

- Plant/Port
- Power Systems
- Truck Shop
- Camps
- Mine Mobile Equipment
- New Freshwater Containment / Supply

## Expansion LOM Statistics

		Increase
Mineral to concentrator	tons	<b>86.4%</b>
Copper Concentrate	tons	<b>82.4%</b>
Zinc Concentrate	tons	<b>46.6%</b>
Moly Concentrate	tons	<b>56.4%</b>
Life of Mine increase		<b>8 years</b>

# Process Plant – Stockpile, Milling & Flotation



# Truck Shop & Mine Fleet

## Truck Shop

1. Addition of 5 bays and 1 PM bay for Haul Trucks
2. Ancillary facilities:
  - Tire Change and Repair Platform
  - Wash Bays
  - Auxiliary equipment bays
  - Lubricant handling yard
  - Relocate & expand welding workshop
  - Expand maintenance offices, dining area and locker room, etc.
3. Spence Truck Shop used as reference - 5 star FLAC systems
4. Operational date Q1 2011 (2 bays)

## Mining Fleet

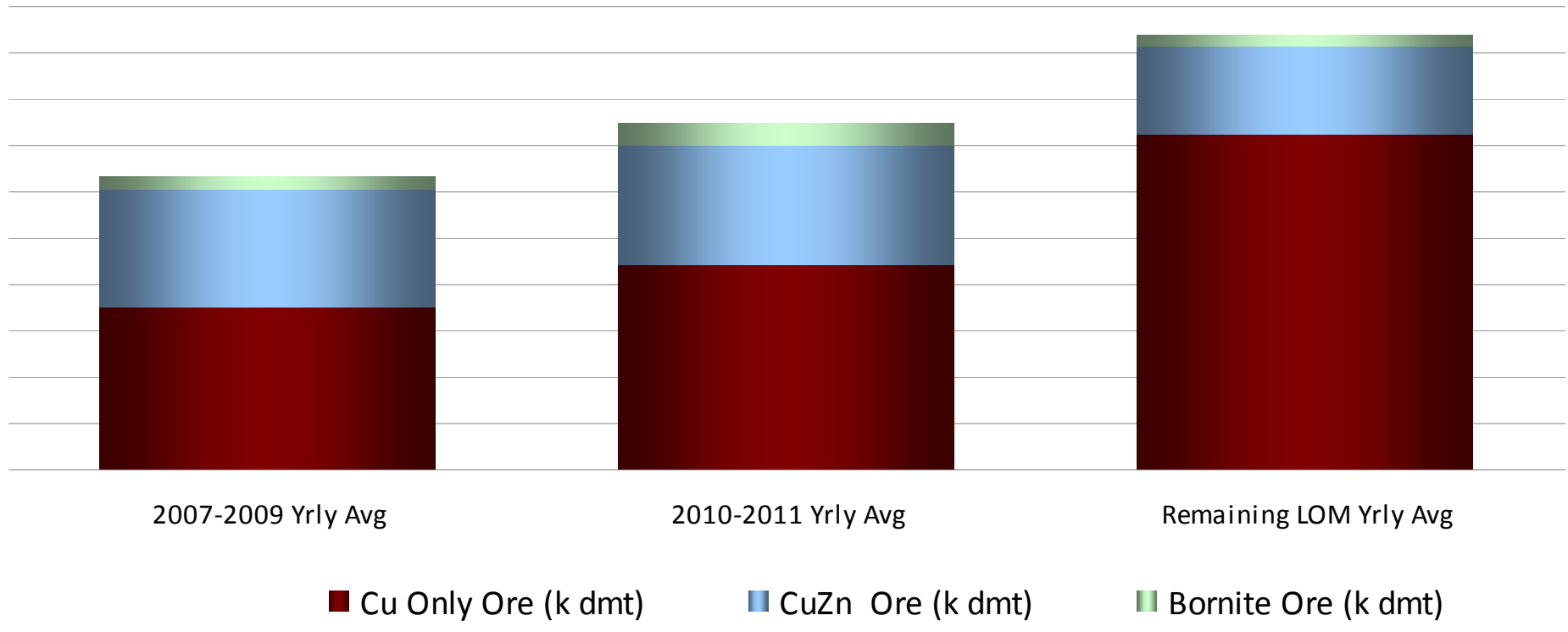
Item	Quantity
Stripping Shovels	3
Haul Trucks	96
Electric Drill	5
Wheel Dozer	7
Motor Grader	7
Loader	3
Long reach Excavator	3
Dozer	3
Water Truck	5

# Expansion Program Impact



**Cu ore feed increases 80%+ over remaining LOM vs. 2007-2009 base**

## Mill Feed



# Expansion Program Metrics

- Investment of \$1.3 billion
- ROP utilized for \$900 million of investment
- 38% Increase in annual mill throughput
- Strong continued by-product credits with increasing moly production (nature of deposit & more Cu ores)
- Payback of less than 5 years on project



[www.antamina.com](http://www.antamina.com)

