



## Volcan Compañía Minera







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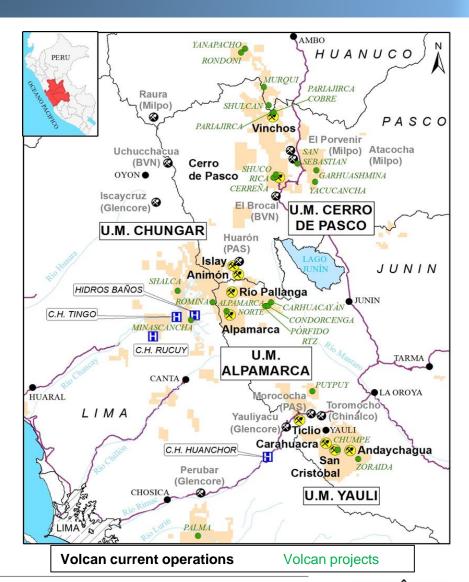
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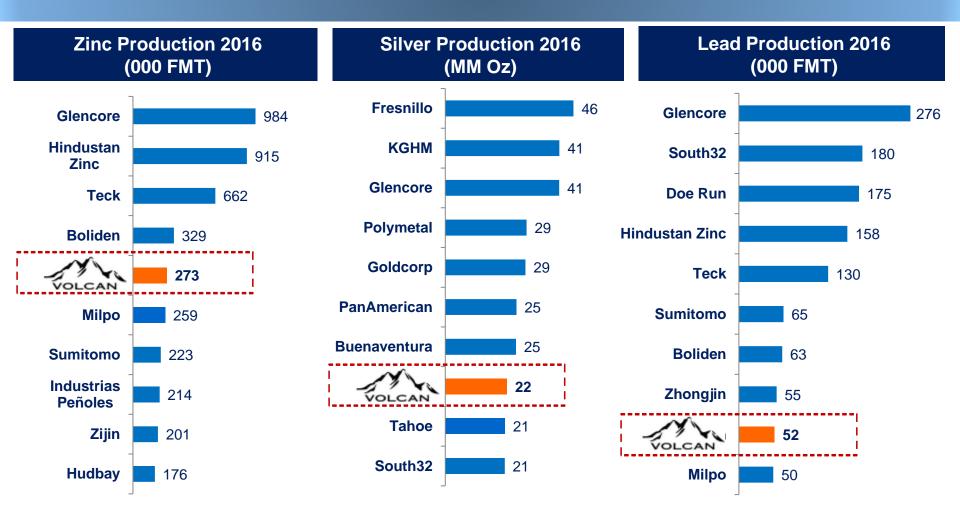
## Strategic Location with Diversified Operations

- More than 70 years of mining experience
- Committed to the highest standards of safety & environmental protection
- A world-class producer with significant organic growth potential
- Diversified, balanced and stable production of base & precious metals
  - Five operating units, 12 mines
  - Seven concentrator plants & one lixiviation plant (Ag oxides)
- First-quartile C1 zinc & silver cash costs
- Logistical flexibility
- Constructive relationships with authorities, labor & communities





## A Leading Global Producer of Zinc, Silver & Lead



- Significant negotiating leverage due to ability to deliver large volumes across several key metals
- Broad client base composed of major global commodity traders and refineries

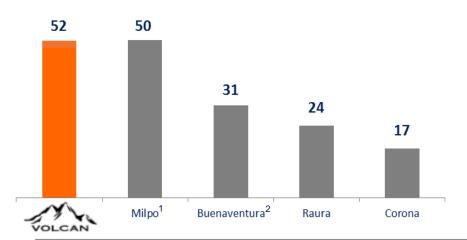


## A Leading Producer of Zinc, Silver & Lead in Peru

#### **Peru Ranking – Mining Production 2016**

Metal	LatAm	Global
Zinc	1	2
Lead	1	4
Silver	2	2

#### Lead Production 2016 (000 FMT)

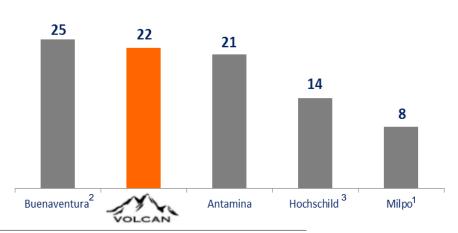


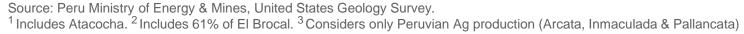
# Zinc Production 2016 (000 FMT) 273 261 259 51 47

#### **Silver Production 2016 (MM Oz)**

Milpo 1

Antamina







Buenaventura<sup>2</sup> Catalina Huanca

## A Safe Place to Work

#### **Frequency Index**

Lost-time injuries per million hours worked

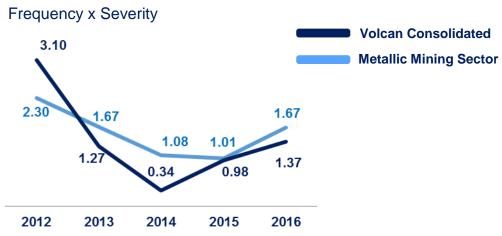


#### **Severity Index**

Days lost per million hours worked



#### **Accident Index**





## Mining Operations<sup>1</sup>



Yauli

Mines:

Reserves:

Capacity:

LOM:

**Production:** 

Four underground, one open pit

27.3 MM MT; 5.34% (Zn), 0.89% (Pb), 0.22% (Cu), 3.24 oz/MT (Ag)

11,000 tpd from three concentrator plants

Seven years (reserves), 16 years (reserves + inferred resources)

165 K FMT (Zn), 24 K FMT (Pb), 3 K FMT (Cu), 11.6 MM oz (Ag)



Chungar

Mines:

Reserves:

Capacity:

LOM:

**Production:** 

Two underground

9.8 MM MT; 5.21% (Zn), 1.50% (Pb), 0.14% (Cu), 2.52 oz/MT (Ag)

5,500 tpd from one concentrator plant

Five years (reserves), 12 years (reserves + inferred resources)

96 K FMT (Zn), 20 K FMT (Pb), 1 K FMT (Cu), 4.1 MM oz (Ag)



**Alpamarca** 

Mines:

Reserves:

Capacity:

LOM:

**Production:** 

One underground, one open pit

0.7 MM MT; 1.11% (Zn), 0.69% (Pb), 2.78 oz/MT (Ag)

2,500 tpd from one concentrator plant

One year (reserves), three years (reserves + inferred resources)

10 K FMT (Zn), 7 K FMT (Pb), 2.0 MM oz (Ag)



<sup>&</sup>lt;sup>1</sup>Life of mine (LOM) is calculated based upon proven and probable reserves plus inferred resources as of 31/12/16. Production represents total 2016 amounts.

## Mining Operations<sup>1</sup>



Mines:

**Reserves:** 

Capacity:

**Production:** 

Two underground, open pit

15.3 MM MT; 3.51% (Zn), 1.21% (Pb), 1.56 oz/MT (Ag)

6,000 tpd from two concentrator plants

2 K FMT (Zn), 1 K FMT (Pb), 0.1 MM Oz (Ag)



Feed:

Reserves:

Capacity:

LOM:

**Production:** 

Stockpiles & in-situ mineral from Raul Rojas Open Pit

12.1 MM MT; 6.25 oz/MT (Ag)

2,500 tpd from one lixiviation plant

13 years of reserves, 19 years (reserves + inferred resources)

4.1 MM Oz (Ag), 3.3 k Oz (Au)



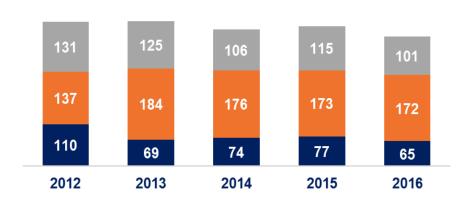
<sup>&</sup>lt;sup>1</sup> Life of mine (LOM) is calculated based upon proven and probable reserves plus inferred resources as of 31/12/16. Production represents total 2016 amounts.

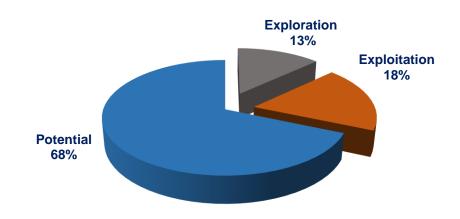
## Solid Life of Mine (LOM)<sup>1</sup>, Robust Geological Potential

- 8-year LOM (Reserves), 19-year LOM (Reserves + Inferred Resources)
- 9 MM FMT of Zn (Reserves + Resources)
- 798 MM ounces of Ag (Reserves + Resources)

#### **Evolution of Reserves & Resources (MM MT)**

## ~ 344k Ha. of Mining Concessions





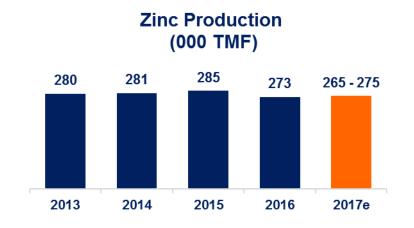
■ Inferred Resources ■ Measured & Indicated Resources ■ Reserves

Prices used to calculate R+R 2016: Zn 2,300 USD/MT, Pb 2,100 USD/MT, Cu 5,800 USD/MT, Ag 18 USD/Oz

VOLC

## Stable Production with Operating Flexibility

- Silver production now more diversified
- Expansion from new and existing operations compensate suspended production at Cerro de Pasco



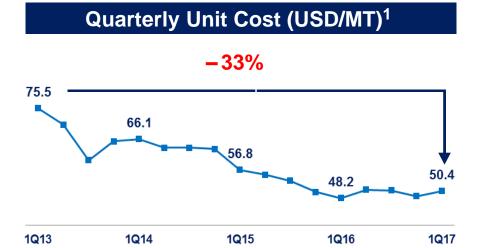


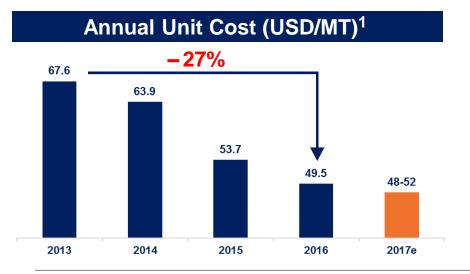






## Operating Cost Restructured & Reduced





# Operating-cost reductions from continous-improvement program integrated into all operating units



**33%** operating-cost reduction since 1Q13 (75.5 USD/MT)



Stable operating-cost outlook for 2017

- Optimization of mining methods
- Restructuring of the number, scope and rates of contractors
- Personnel reduction
- Increased efficiencies in mine support & energy usage

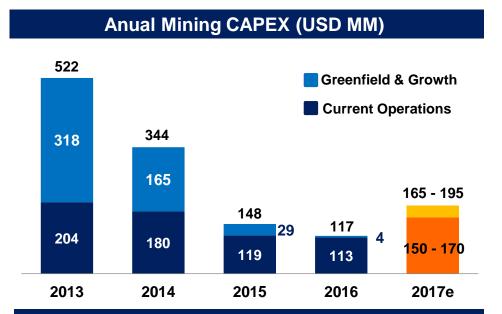


Expected additional cost reduction based on infrastructure investments like San Cristobal-Carahuacra and Animon-Islay integration tunnels

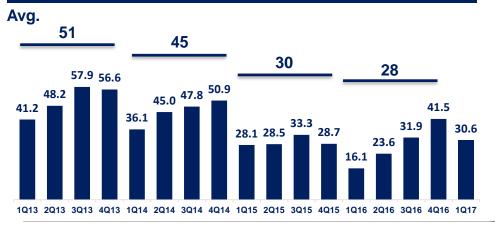


<sup>&</sup>lt;sup>1</sup> Unit cost of production excludes the following costs: purchases of concentrate or mineral from 3rd-parties, extraordinary costs associated with events such as employee liquidation costs or intercompany mineral purchases.

## Disciplined Capital Investment



#### **Quarterly Current Operations CAPEX (USD MM)**





**45% reduction** in operating CAPEX (2013 – 2016) to preserve cash



**90% YOY investment increase** (1Q17 vs. 1Q16) in explorations, mine development & infrastructure



2017 CAPEX increase is related to mine development, infrastructure & explorations

## Volcan Growth Exploration DDH (000 Meters)<sup>1</sup>

	2016	2017	Var%
Yauli <sup>1</sup>	15	30	93
Chungar <sup>1</sup>	15	37	140
Greenfield	7	44	549
Total	37	110	194

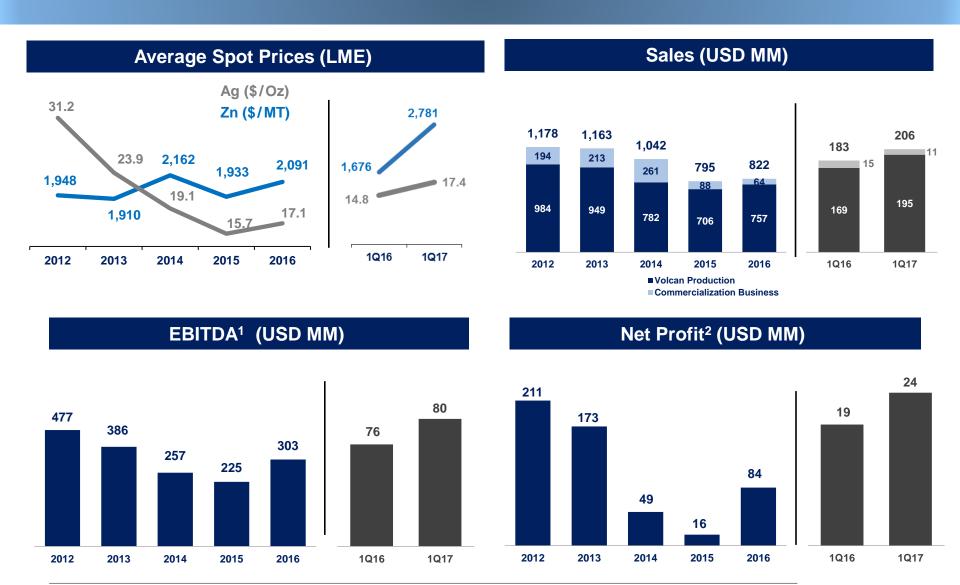


## Mining Operations Guidance 2017

Consolidated Production		2015	2016	Var. %	Estimated 2017
TMT (000	)	7,910	7,716	-2.5	7,500 - 8,500
Zinc	(000 FMT)	285	273	-4.1	265 - 275
Lead	(000 FMT)	<b>60</b>	<b>52</b>	-12.4	45 - 50
Copper	(000 FMT)	4	5	20.0	3 - 4
Silver	(MM Oz)	25	22	-11.4	18 - 19
Gold	(000 Oz)	5	6	9.4	4 - 5
Consolidated OPEX		2015	2016	Var. %	Estimated 2017
Unit Cost (USD/TM)		53.7	49.5	-7.8	48 - 52
Consolidated CAPEX (MM USD)		2015	2016	Var. %	Estimated 2017
Mining Operation		147.6	116.9	-20.8	165 – 195
Operating Capex		118.6	113.1	-4.6	150 - 170
Greenfiel	d & Growth	29.0	3.8	-87.0	15 - 25



#### **Financial Indicators**



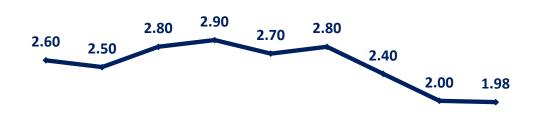
<sup>&</sup>lt;sup>1</sup>EBITDA 2016 includes an extraordinary gain of USD 12.9 MM in 1Q16 related to the partial buyback of international bonds issued in 2012 <sup>2</sup>Net profit 2015 excludes exceptional items, as non-cash impairment of assets, intangibles and inventory. Net profit with exceptionals was USD - 454 MM.



## Liquidity & Creditworthiness

- Lower leverage and increasing EBITDA
- Focused on cash generation & balance-sheet strength

#### Net Debt / EBITDA (USD MM)<sup>1</sup>



	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17
Net Debt	655	660	660	648	631	629	633	610	610
<b>EBITDA</b>	253	263	236	225	237	228	267	303	307

#### Cash Flow 1Q17 (USD MM)

Balance - Dec 2016	203.4
Operating Flow	73.4
Mining Investment	-30.5
Energy Business	+0.9
Other Investments	-1.5
Dividends and Interest	-31.4
Net Financing	-13.8
Balance - Mar 2017	200.5



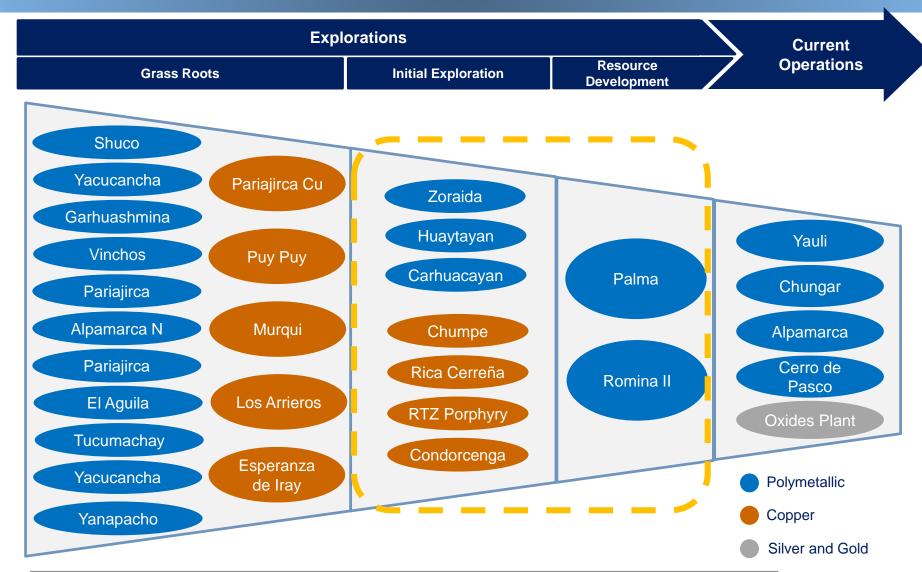
## **Growth Strategy**

- Build on competitive global position in zinc, silver & lead production
- Capitalize on the geological potential within the portfolio
- Enhance diversification through significant copper production
- Achieve goals via organic & inorganic growth





## World Class Mining Assets





## Resource Development: Romina II

- Located 15 km from UEA Alpamarca (6,554 Ha.)
- Polymetalic PIPE & vein mineralizations
- Potential of 15 MM MT (6-7% Zn, 2-3 oz Ag/t)
- Exploration permits approved (DIA)
- Preliminary expected production: 30-35 K FMT (Zn), 12-15 K FMT (Pb), 0.8-1.2 MM Oz (Ag)

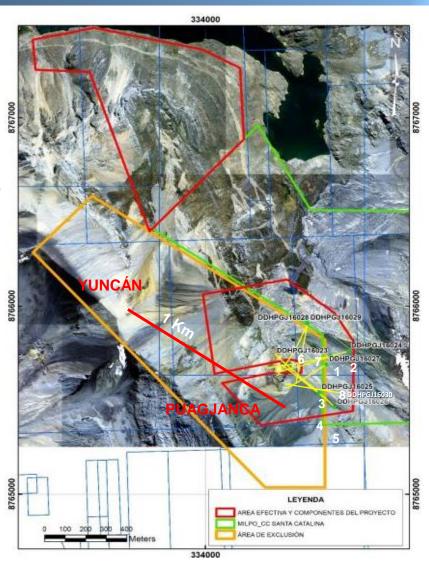
#### **Main Structures**

#### Puagjanca

- 14 DDH perforations (5,126 m)
- Successful results cut high-grade polymetallic ore
- Estimated tonnage of 6 MM MT

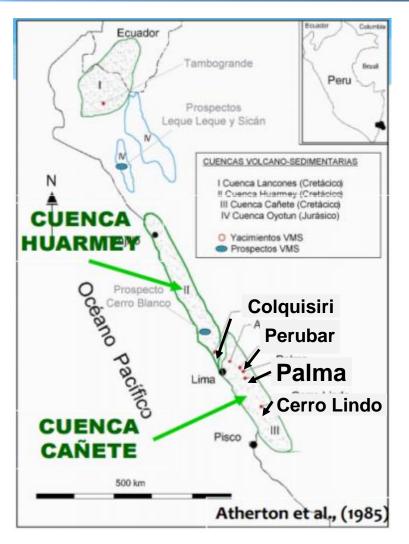
#### Yuncán

- Indications of an important mineralized body
- · Two perforations cut high-grade zinc ore





## Resource Development: Palma



- Located at the basin of the Casma Group, same geotectonic environment as important deposits such as Cerro Lindo, Perubar & Colquisiri
- 4 prospective sectors along a 6 km corridor
- 25,000 m of DDH:
  - Current resources of 5.2 MM TM (7.19% Zn, 1.48% Pb, 1.45 oz Ag/t)
  - Cu presence confirmed
- Environmental Impact Assessment (EIA) modified to build a 1 km exploratory tunnel, expected to begin in 2Q17



## Initial Exploration: Polymetallic Projects



#### **Zoraida (Yauli)**

- Located 7 km South of Andaychagua
- Potentially Yauli's third mineralized system
- Permits in process for 2,500 m of DDH

#### Huaytayan (Yauli)

- A 3,000 m drilling program is being executed
- Declaration of Environmental Impact (DIA) approved

#### Carhuacayan (Alpamarca)

- Located 20 km East of Alpamarca
- 2017 DDH program continuing



## Initial Exploration: Copper Projects



Volcan has an important portfolio of copper projects, with characteristics similar to Chinalco´s Toromocho mine

During 2017, Volcan will complete inicial drilling at four first-class porphyry projects (Cu-Mo & Cu-Au):

- 1. Chumpe (Yauli): 15 km from Toromocho
- 2. Condorcenga (Carhuacayan, Alpamarca)
- 3. RTZ (Carhuacayan, Alpamarca)
- 4. Rica Cerreña (Cerro de Pasco)



## **Energy Operations**

#### 100+ MW hydroelectric energy portfolio

- Rucuy commercial operations began August 2016
- 40 MW connected to the national grid
- 23 MW connected to the Chungar unit
- Additional 45 MW of development projects

Current infrastructure	Capacity
13 Hydroelectric plants	63 MW
15 Transmission lines	350 Km
26 Electric substations	300 MVA

Volcan Electric Balance	GWh	%
Consumption 2016	635	100
Self generation	323	51
USD/	Hydroelectric	0

Cost	USD/ MWh	Hydroelectric Projects	Capacity
Produced energy	20	Tingo Expansion	15 MW
Purchased energy	75	Chancay 2 plants	30 MW

## **Rucuy Hydroelectric Plant**







## Why Invest in Volcan?



- A world-class, low-cost producer
- Diversified among base & precious metals
- Committed to the highest safety & sustainability standards
- Experienced management
- Highly prospective, wholly-owned resource base
- Attractive polymetallic and copper projects portfolio



# Annex



## Volcan Compañía Minera History

In 1943 the Company began operations as Volcan Mines Company. For more than 50 years, Volcan operated only two mines, Ticlio and Carahuacra, and the concentrator plant Victoria.

In 1997 Volcan acquired Empresa Minera Mahr Tunel, owner of the San Cristobal and Andaychagua mines, and the concentrator plants Mahr Tunel and Andaychagua.

In 1999 Volcan acquired Empresa Minera Paragsha, which included the Cerro de Pasco mining operation.

One year later, in 2000, Volcan acquired Empresa Administradora Chungar with 450 ha. of mining concessions and a 350 tpd processing plant. Today Chungar produces 5,500 tpd.

These acquisitions, as well as mine and plant expansions executed by the Company in the last 15 years, turned Volcan into one of the principal producers of zinc, silver and lead in the world.



**Ticlio**,1943

## Volcan Compañía Minera Production Growth

PRODUCTION	1997	2016
Zinc Concentrates (000 MT)	50	520
Lead Concentrates (000 MT)	6	54.5
Copper Concentrates (000 MT)	-	12.5
Silver (MM Oz)	0.5	22.0



## Social Responsibility

Investment is concentrated in the communities in our area of influence in three fields: education, health and economic development



#### **Corporate Alliance**

By 2021, Volcan and Enseña Perú will transform the educational reality of the Junín and Pasco regions by placing 20 high-level teachers in the most needy schools



#### **Educational programs**

- Scholarships to children of local community members
- Performance Monitoring
- Specialized training (mining, administration and soft skills)



## Corporate project, horizon to 2018

Working in cooperation with the NGO Prisma, Volcan's strategic partner in health & economic development



## Social Responsibility

- USD 6MM invested in the development of the communities in 2016
- Boosting local economies through the contracting of communal enterprises for USD 22 MM per year
- Volcan was a pioneer in investments under the modality of public works by taxes (OPI)
- S /. 100 MM invested in OPI under this since 2011



Huayhuay Peasant Community, Junín – Enseña Peru



Opening Ticlacayán School, Pasco Public Works by Taxes



## Yauli Mining Unit

Mines: Capacity: LOM¹:

Four underground, one open pit 11,000 tpd from three concentrator plants Seven years of reserves, 16 years reserves + inferred resources



- 1. Largest unit by volume & revenue
- 2. Ongoing infrastructure investment, improving efficiency
- Systematic exploration of deposits in current operation
   brownfield targets

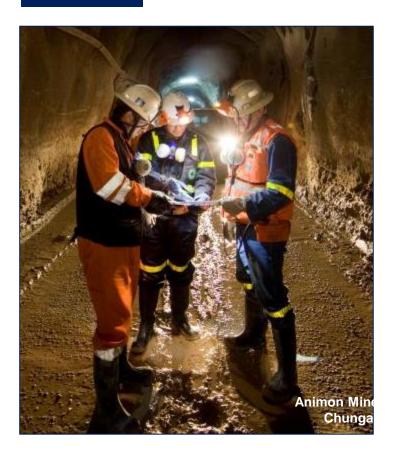
Yauli Consolidated Production						
		2013	2014	2015	2016	
Treatment	000 TMT	3,743	3,837	3,994	3,657	
Zinc	000 FMT	159	158	175	165	
Lead	000 FMT	31	22	25	24	
Copper	000 FMT	2	2	3	3	
Silver	MM Oz	10.8	11.5	12.9	11.6	
Unit Cost Operating Inv.	USD/MT USD MM	66.2 111	66.1 100	58.6 63	60.5 65	
-						



## **Chungar Mining Unit**

Mines: Capacity: LOM<sup>1</sup>:

Two underground 5,500 tpd from one concentrator plant Five years of reserves, 12 years reserves + inferred resources



- 1. Most profitable unit
- Islay 4: located between Animón and Islay, allowing for the integration of both mines. Important mineralization
- 3. Systematic exploration of deposits in current operation & brownfield targets

Chungar Consolidated Production							
		2013	2014	2015	2016		
Treatment	000 TMT	1,827	1,954	1,896	2,016		
Zinc	000 FMT	102	104	89	96		
Lead	000 FMT	27	25	23	20		
Copper	000 FMT	1	1	1	1		
Silver	MM Oz	7.0	5.9	4.6	4.1		
Unit Cost	USD/MT	56.9	53.6	48.1	50.9		
Operating Inv.	USD MM	80	65	41	39		



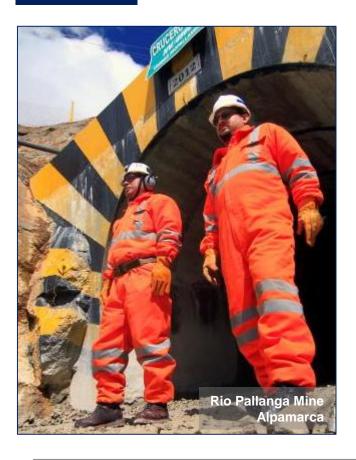
## Alpamarca Mining Unit

Mines: Capacity: LOM¹:

One underground, one open pit

2,500 tpd from one concentrator plant

One year of reserves, three years reserves + inferred resources



- 1. In operation since 2Q14
- 2. Costs below projections
- 3. Significant brownfield & greenfield opportunities: Romina II, Carhuacayan

Alpamarca Consolidated Production							
		2014	2015	2016			
Treatment	000 TMT	593	879	910			
Zinc	000 FMT	6	9	10			
Lead	000 FMT	4	6	7			
Copper	000 FMT	0	1	1			
Silver	MM Oz	2.2	2.7	2.0			
Unit Cost	USD/MT	47.6	33.2	23.5			
Operating Inv.	USD MM	11.9	5.6	2.4			



## **Oxides Plant**

Capacity:

Feed:

LOM<sup>1</sup>:

2,500 tpd from one lixiviation plant

Stockpiles & in-situ mineral from Raul Rojas Open Pit

13 years of reserves, 19 years reserves + inferred resources



- 1. Production iniciated 2Q14
- 2. Plant operating at full capacity since 1 June, 2015
- 3. Annual production (est.): 3 MM to 4 MM Oz (Ag)

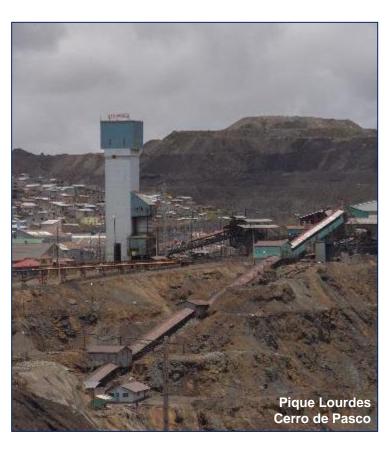
Oxides Plant Production				
		2014	2015	2016
Treatment	000 TMT	239	743	900
Silver	MM Oz	1.1	3.6	4.1
Gold	Oz	651	5,312	3,272
Unit Cost	USD/MT	-	39.1	37.4
Operating Inv.	USD MM	-	9.0	6.9



## Cerro de Pasco Mining Unit

Mines: Capacity:

Two underground, one open pit 6,000 tpd from two concentrator plants



- 1. Unit in transition, production suspended
- 2. Evaluation of new business opportunities in progress
- 3. Production from low-grade polymetalic stockpiles to begin 2H17

Cerro de Pasco Consolidated Production					
		2013	2014	2015	2016
Treatment	000 TMT	840	771	399	233
Zinc	000 FMT	19	13	12	2
Lead	000 FMT	9	6	5	1
Silver	MM Oz	2.9	1.9	1.1	0.1
Unit Cost	USD/MT	96.3	99.6	97.4	16.6
Operating Inv.	USD MM	10.6	1.8	-0.1	0.1



## Competitive Operating Cash Cost

Cook Coot1	Zinc (USD/MT)			
Cash Cost <sup>1</sup>	2015	2016	var%	
Co - Product	1,371	1,375	0.3	
By - Product	977	911	-6.7	

Cash Cast1	Silver (USD/Oz)			
Cash Cost <sup>1</sup>	2015	2016	var%	
Co - Product	11.2	11.3	1.0	

4.8

By - Product

Price	Unit	2015	2016
Zinc	USD/MT	1,933	2,091
Silver	USD/Oz	15.7	17.1

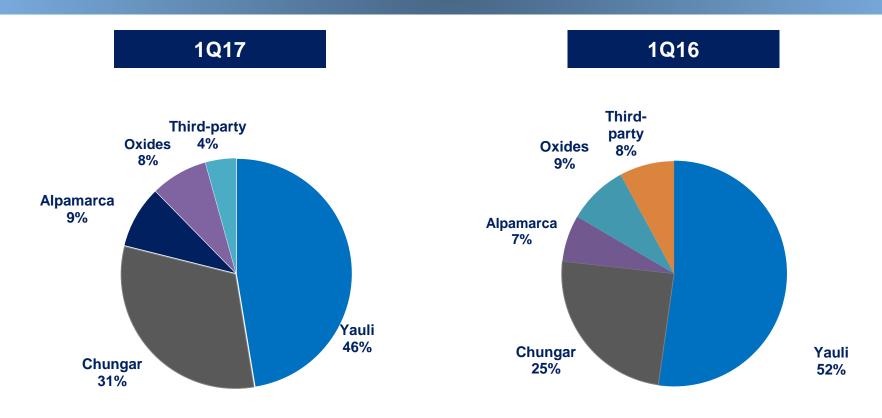
Source: Average LME spot price



2.6

-46.0

## Sales Breakdown by Origin

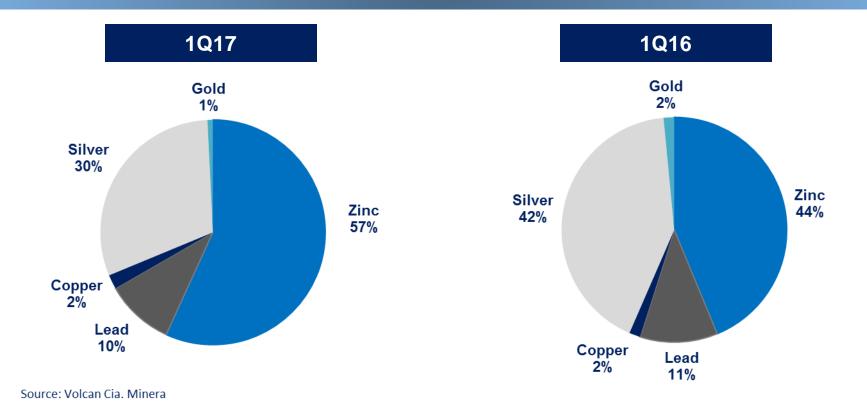


Source: Volcan Cia. Minera

 The distribution of sales by origin reflects a decline in the contribution of third-party concentrates in total sales, from 8% in 1Q16 to 4% in 1Q17



## Sales Breakdown by Metal



• Zinc contribution is expected to increase due price outlook



## **Bonds and Credit Ratings**

#### **International Bond Emission**

✓ USD 600 MM issued February 2012
 (USD 535 MM currently outstanding)

✓ Rate: 5.375% maturing February 2022

✓ Demand: USD 4.8 B

#### **Credit Ratings**

FitchRatings BBB-

Moody's Ba3



## Stock Market Highlights<sup>1</sup>

#### **Stock Market Listings**

Lima Since 1956 Madrid (Latibex) Since 2000 Santiago Since 2007

#### Class A Shares: Full voting rights

Shares outstanding: 1,633,414,553

Aprox. 600 shareholders

#### Class B Shares: Div. premium of 5% over Class A

Shares outstanding: 2,443,157,622

Aprox. 8,800 shareholders

#### Selected Institutional Shareholders of Volcan Compañía Minera S.A.A.

AFP Habitat Credicorp Capital Mercury Asset Management

AFP Integra Eaton Vance Pacífico Seguros

Arca Trading Limited FSRyC de la Marina Prima AFP

Arte Express y Compañía Global X Sillver Miners ETF Profuturo AFP

Ashmore Group Inteligo Sura

Administration of the state of

Blackrock Global Funds Ishares MSCI All Peru Capped (EPU) Vanguard Group

Caja Municipal Trujillo La Positiva





## Thanks!