



# Moving towards production

April 2018



# Important information

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## CAUTIONARY STATEMENT:

The potential quantity and quality of the exploration targets identified in this announcement are conceptual in nature, and there has been insufficient exploration to date to define a mineral resource in accordance with the Australian Code for Reporting of Mineral Resources and Ore Reserves published by the Joint Ore Reserve Committee 2012 ("JORC Code 2012"). Furthermore, it is uncertain if further exploration at its exploration targets will result in the determination of a mineral resource. The potential quantity and grade of an exploration target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the exploration target itself will be realised.

## COMPETENT PERSONS' STATEMENT:

The information in this report that relates to exploration results, data collection and geological interpretation is based on information compiled by Mr Andrew Richards BSc (Hons), Dip Ed, MAusIMM, MAIG, MSEG, GAICD who is a Member of the Australasian Institute of Mining and metallurgy (AusIMM) and Institute of Geoscientists (AIG). Mr Richards has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves' (JORC Code). Mr Richards consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# Directors and Management

## CHAIRMAN

### Mr Stephen Copulos

Over 30 years' experience in business and investments and over 16 years experience as a company Director of both listed and unlisted entities.

He is the major shareholder of Consolidated Zinc Limited and Crusader Resources (ASX:CAS) and Black Rock Mining Ltd (ASX:BKT).

## CHIEF EXECUTIVE OFFICER

### Mr Brad Marwood

A Mining Engineer with 35 years experience developing mine across the globe. As a senior executive Brad has grown ASX junior explorers to ASX 200 listed companies. A specialist in large scale open cut and small scale underground mines in base metal and precious metals. He has served with public companies for the past 20 years.

## EXECUTIVE DIRECTOR

### Mr Andrew Richards

Over 30 years' experience as a geologist including senior roles in exploration, mine production, corporate management and project finance with an international bank. Andrew has extensive international experience and has been on the boards of several unlisted and listed companies on the ASX and AIM.

## TECHNICAL DIRECTOR

### Mr Eduardo Valenzuela

A Mining Engineer over 30 years experience, Eduardo has a deep understanding of the Latin American mining industry. He spent several years with the World Bank/ IFC in the US advising on resource projects funding around the world including Mexico. Currently Manager Mining and Geology with Wood, he brings a wealth of technical and local knowledge.

## COMPANY SECRETARY

### Mr Andrew Beigel

Mr Beigel has more than Twenty years' corporate experience across a range of industries and has held executive positions with other ASX listed companies in the resources sector. He holds a Bachelor of Commerce from Murdoch University and is a member of CPA Australia.

## EXPLORATION MANAGER

### Mr Steve Boda

Mr Boda has 25 years' experience in exploration and occupied senior management roles with mining and exploration in Australia, China, SE Asia and Zambia. He has a track record in using structural geology to target economic mineralisation across a variety of commodities and estimation of JORC resources.



# PLOMOSAS

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Defining Resources and recommissioning a high grade  
Zinc, Lead and Silver Mine

# About Plomosas Project

- Highest-grade zinc exposure on ASX
- Combined Zinc and Lead grades higher than most deposits world-wide
- Located, Chihuahua, Mexico - a world-class mining province
- Historic mine - excellent underground infrastructure to 300m. Open at depth and along strike.
- Mined for 30 years after WW2, 2.5Mt at 24% ZnEQ mined, development includes decline to 250m, shafts to 400m, secondary shafts, declines, raises and production haulage Levels at 220m and 390m

## To April 2018

- Mine dewatered to the Level 7 910mRI (surface at 1130mRL)
- JORC Resource of **968,000 tonnes @ 15.9% Zn+Pb** (154,000t contained metal)
- Established mining credentials, safe operator
- Drilled over 2,000m per month for last 6 months
- Scoping Study completed





# Mine Exploration potential

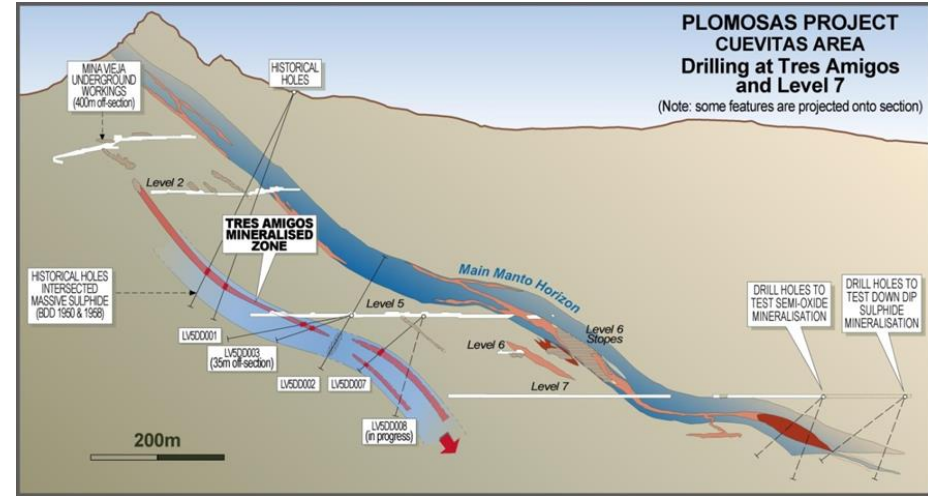
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Mine and Regional program returning exciting results  
Expanding defined resources to support mining decisions



# Plomosas Exploration

- Resource upgrade expected in April 2018 (Improvement in classification and tonnes)
- Reserve Estimation expected in June 2018
- Define Tres Amigos Extension above Level 7
- Dewater to establish drilling sites from Levels 9 and 10
- Define depth extension of Tres Amigos below Level 7
- Resource update Q2 2019
- Reserve Estimate Q2 2019
- Extension drilling of Tres Amigos below Level 9 and Orebody 32 below Level 7
- Exploration teams to complete mapping all declines shafts, adits and points of access to the known mineralisation zones over 4 km
- Develop targets through surface exploration techniques.



Schematic section of stratigraphy through Plomosas and preferentially mineralised, repeating carbonate horizons



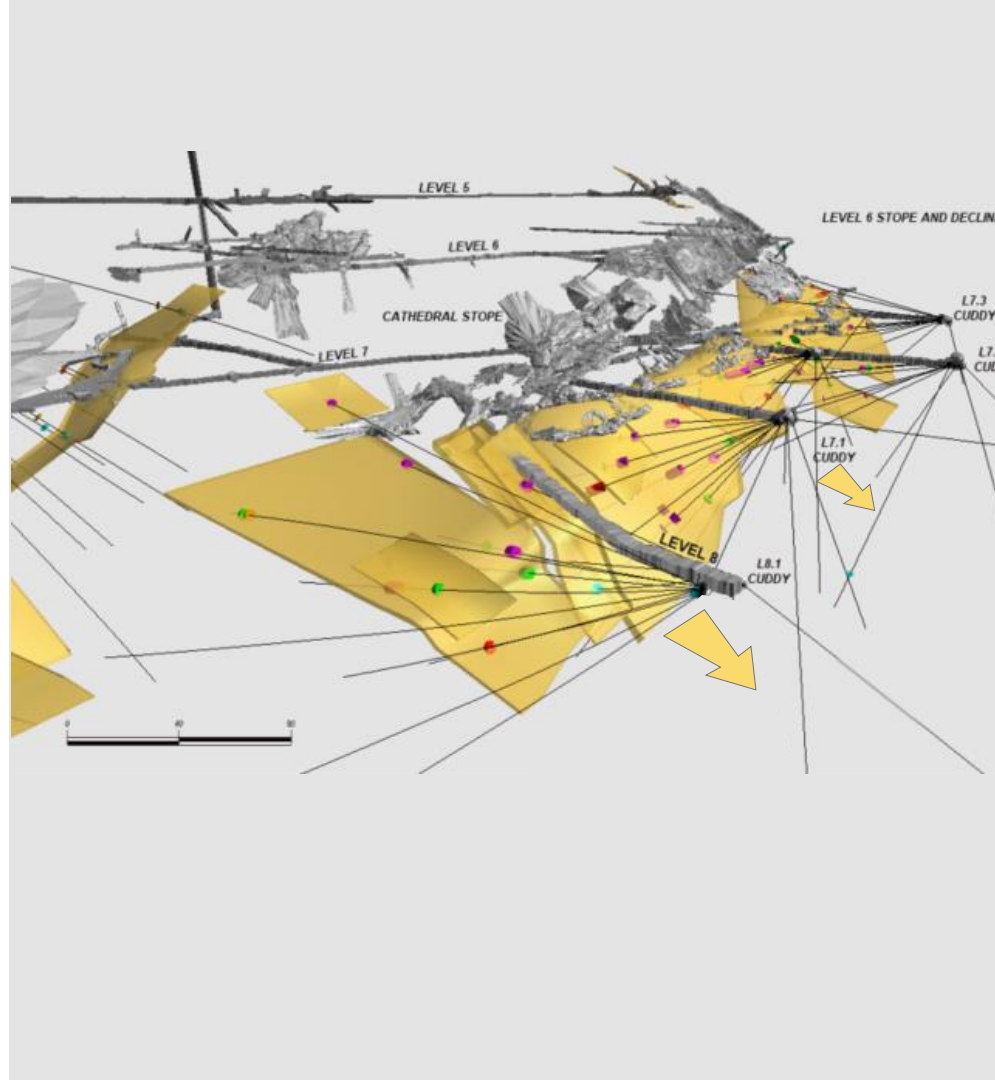
# Resource Development

## Resource Near term Definition

- Tres Amigos parallel zone and down dip repeat
- Orebody 32 (Main Lode) extension below Level 7
- With access from strike drives Level 8,9 and 10 - drilling not the only option
- 4km of active mining area, focus to date on 600m along strike and 300m down dip of (4000m x 900m)

## Prospects within resource area

- Level 7: Orebody 32 extension open at depth below Level 9
- Carola: **grades up to 54% Zn+Pb small scale**
- Las Espadas: Underexplored /easily accessible
- 4 km strike exposure at surface





# Regional exploration

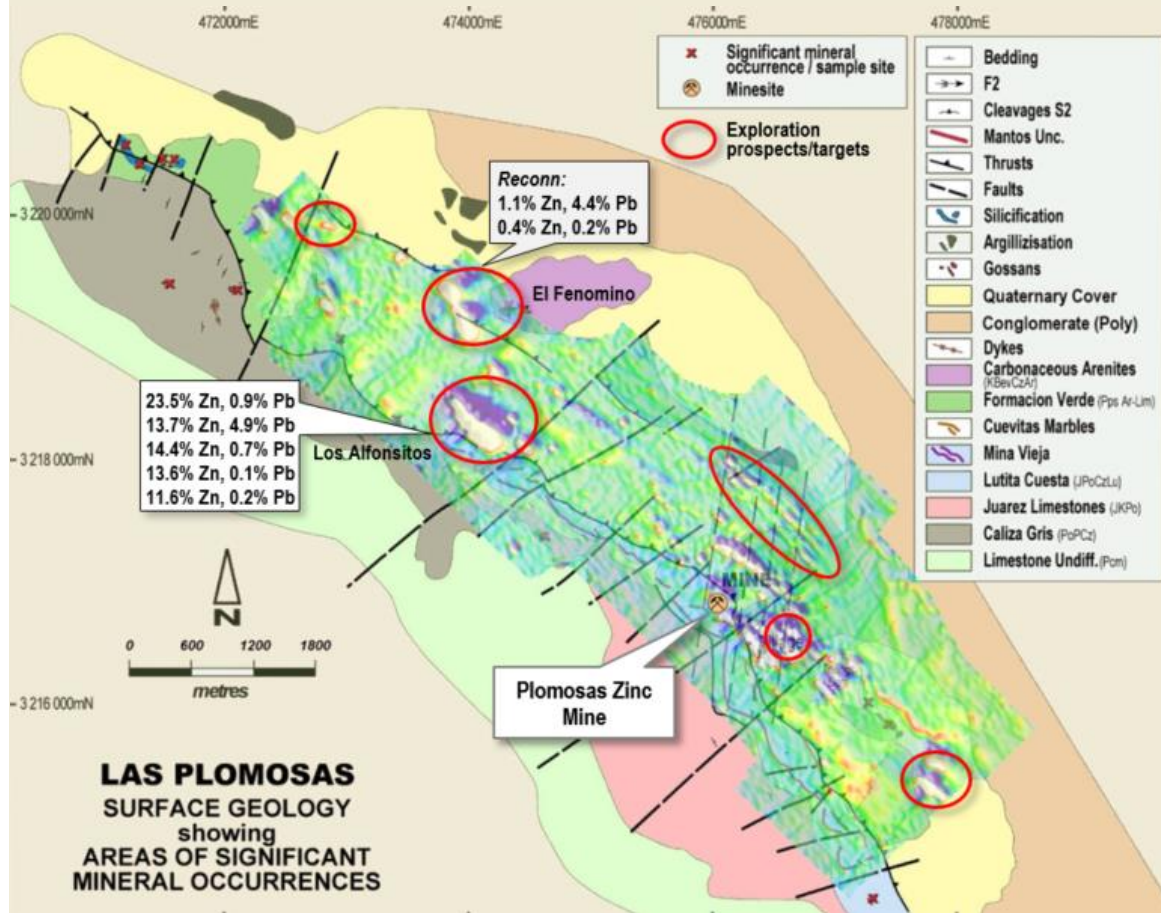
Outcropping prospects identified by CZL

## Alfonsitos Prospect – First of several

- ❑ 2.5km along trend from Plomosas
- ❑ First pass rock chip sampling found grades up to **24.34% Zn+Pb**
- ❑ Same geological setting as Plomosas

Additional drill targets to be identified in 2018

...[these results] demonstrate potential for significant new discoveries and additional resource tonnes within existing tenement portfolio



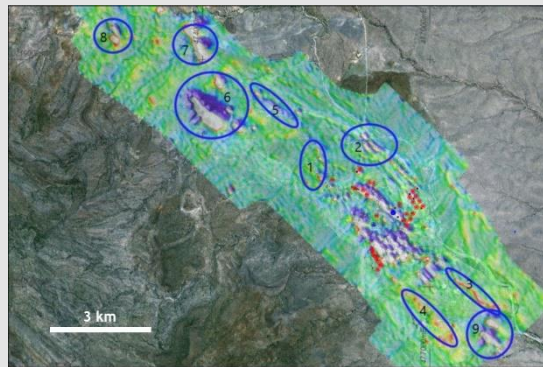
# Resource Focus Longer View

## Identified Targets with High Prospectivity

- Underground access for 4km along strike, focus to date on 600m along strike and +400m down dip of (4000m along strike and 900m down dip)
- Level 7: Orebody 32 extension
- Chimney pipes between OB32 and Tres Amigos
- Carola: **grades up to 54% Zn+Pb small scale**
- Las Espadas: Underexplored /easily accessible

## Regional exploration potential confirmed by recent successful mapping

- Alfonsitos prospect drill target,
- Fenomino prospect drill target
- Surface exploration target development
- **7 km of mineralised sequence largely undrilled and underexplored**



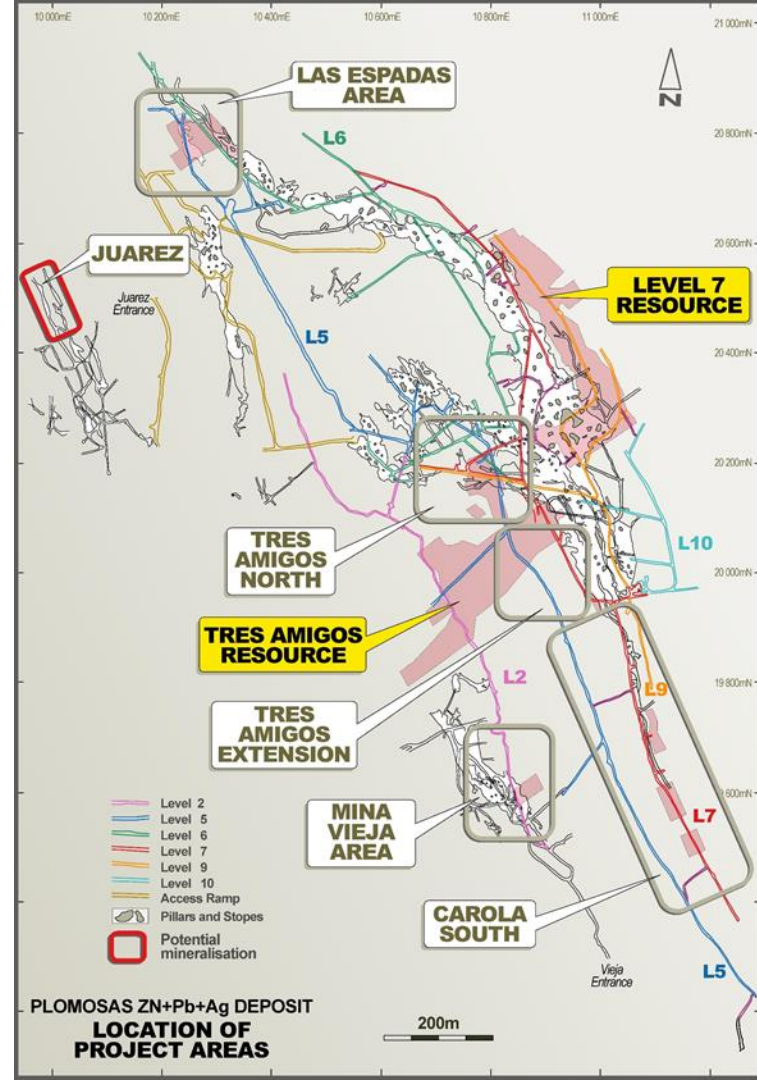
# Under explored mine area

## First 5 priority target areas identified within mine area:

1. **Juarez:** Existing mineralisation in drives – **Not Drilled**
2. **Mina Vieja:** Probable extension of Tres Amigos
3. **Tres Amigos North:** grades up to **33.2% Zn+Pb**
4. **Las Espadas West:** Untested and grades up to 50.2% Zn+Pb
5. **Level 7 Expansion:** Resource open down plunge and down dip

## Significant new discoveries accessible from underground

- **Las Espadas East:** Grades up to **58.6% Zn+Pb** - **Undrilled**
- **Carola South:** Grades up to **53.62% Zn+Pb**; **Undrilled over 522m strike**





## **PRODUCTION TARGETS**

**Stage 1: 35,000 tpa ( 6,000 tpa Zn Conc) - 2019**

**Stage 2: 100,000 tpa (16,500 tpa Zn Conc) - 2019**

**Stage 3: 315,000 tpa (50,000 tpa Zn Conc) - 2020**

New large-scale production strategy developed in stages



# Stage 1 Development

- Existing plant last operated in 2015 - has operated at 4tph or 35,000tpa
- Plant produces a high demand Zinc concentrate
- Estimated 4-6 months work to recommission:
  - spares remain at site, plate filters are required as only new equipment
  - electrical wiring is major work required
  - expect operations re-established for modest cost
- Testing to assess introduction of ore sorter.
- Tres Amigos sulphide ore accessible from existing mine workings

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**Existing float plant**



**Frame for plate filter**

# Stage 2 Expansion

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- To increase the plant output we will focus on two areas of improvement
  1. Increasing feed grade to the float plant
  2. Increasing crusher capacity
- Hire a mobile crushing plant to deliver 100,000tpa crushed feed to the ore sorter at <80mm >10mm, with the fines fraction direct fed to the float plant
- Install an ore sorter to provide a doubling of the feed grade and halving tonnage fed to the float plant. (Leasing is an option)
- Feed to the crusher 10% Zinc will be preconcentrated by the ore sorter to 24% Zinc thus the float plant will recover 2.5X the zinc to concentrate



**Mobile Crusher**



## Stage 3 Fully Loaded

- Mobile crusher sized for over 50tph
- Plant Crushing circuit sized to over 25tph
- Need 200Hp or 160KW of ball mill to get to 25tph
- Add a conditioner pre-float circuit
- Add 2 banks of float cells
- Double the thickener capacity
- Plate filters will be originally sized for +50,000tpa of concentrate
- Services upgrade for water and electrical control.
- Grid power supply sized for long term demand
- Staged build of the Tailings dam, designed for full scale production



**250Hp Ball Mill**

# Targeting significant production in 2019

## New production strategy:

Follows Exploration success.



### Targeting

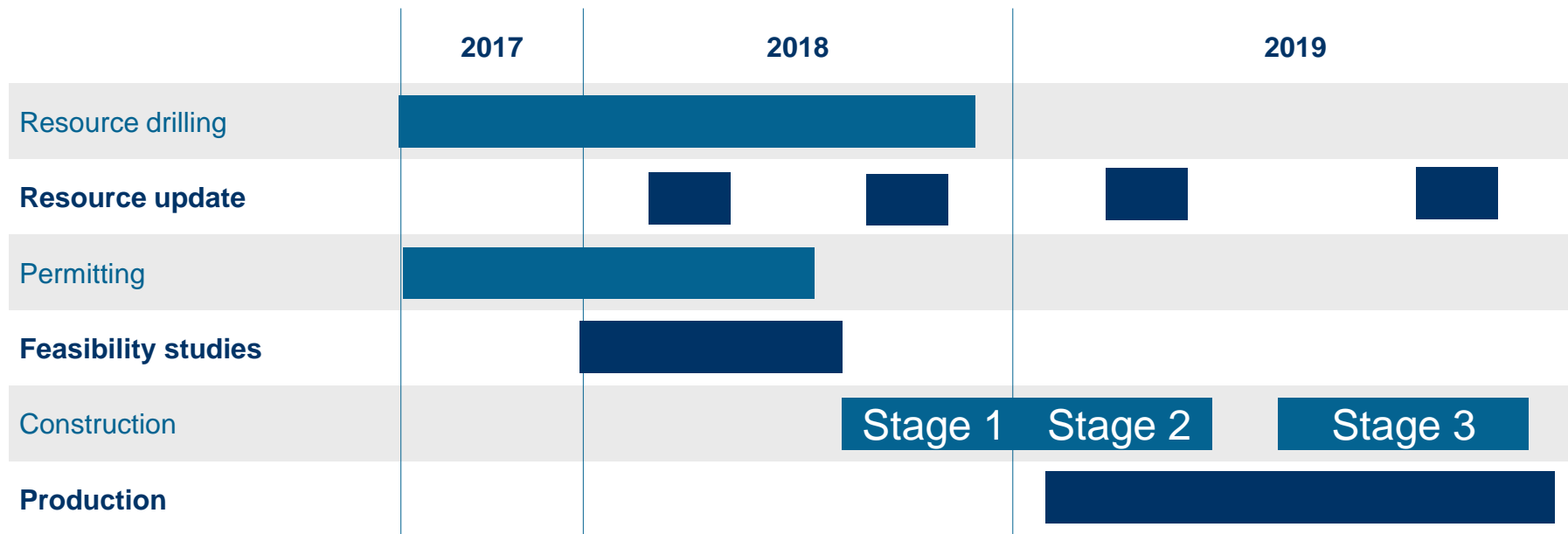
- ☐ Staged development to 300,000tpa production
- ☐ Plus 50,000tpa concentrate production
- ☐ Mine life plus seven year
- ☐ Refurbished plant
- ☐ First production asap 2019



## Underpinned by:

- ☐ Untapped exploration potential along 4-7km of structure, regional potential
- ☐ Ongoing exploration success and increased ownership
- ☐ Strong deep history of delivery
- ☐ Proven mining environment
- ☐ Excellent metallurgy
- ☐ Counterparty Relationships
- ☐ Increased Equity in Asset

# Pathway to production



# Zinc at a ten year high



## Low supply

- Continued global production cuts
- Glencore 'No plans to increase production'

## High demand

- Strong demand in China & India
- India's zinc consumption averaging 4.8% p.a.

**We estimate prices averaging \$3,500 a ton between 2018 and 2020'**

**Wood Mackenzie**  
commodities-industry consultancy



# APPENDICES

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JORC Resource

Project History

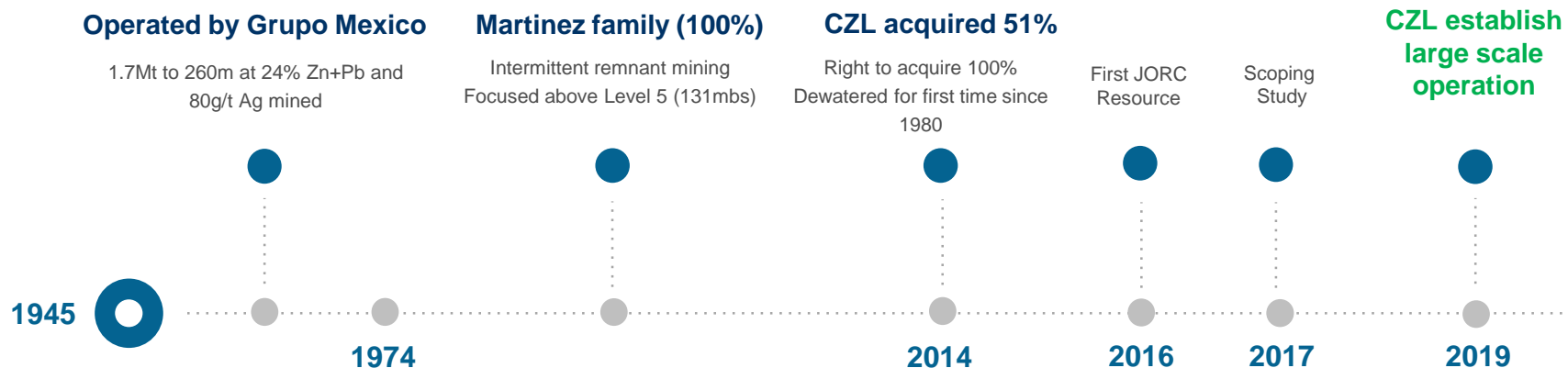
# JORC Resource

Plomosas Mineral Resource Summary (September, 2017)								
Prospect	Tonnes	Indicated Category	Zn %	Pb %	Ag (g/t)	Zn tonnes	Pb tonnes	Ag oz
Level 7	319,000	34%	13.5	6.3	40.2	43,000	20,000	412,000
Tres Amigos	544,000	9%	11.2	2.1	13.9	61,000	12,000	242,000
Carola	28,000	0%	13	5.7	64.7	4,000	1,600	58,000
Las Espadas	77,000	0%	11.8	5	14.4	9,000	4,000	36,000
Total	968,000	16%	12.1	3.8	24	117,000	37,000	748,000



# Plomosas Project: History

- 2.5Mt @ 24% Zn+Pb mined at Plomosas
- Mined 1945-1974 then intermittently – see timeline below
- CZL rehabilitated and dewatered for access



# Section looking North East through Shafts

