



# **Capital Markets Day**

Monday 2<sup>nd</sup> December 2019

LSE: FRES BMV: FRES www.fresnilloplc.com

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## AGENDA

TIME	MIN	PRESENTER	TOPIC
08:30 - 08:35	05	Octavio Alvídrez	Introduction
08:35 - 09:35	60	Andre Sougarret	Operations
09:35 - 09:50	15	David Giles	Geological Model/ R&R (operating mines)
09:50 - 10:10	20	Octavio Alvídrez	Projects
10:10 - 10:40	30	David Giles	Exploration (new projects)
10:40 - 10:50	10		BREAK
10:50 - 11:20	30	Mario Arreguín	Costs
11:20 - 11:45	25	Exequiel Rolón	ESG
11:45 - 11:50	5	Octavio Alvídrez	Closing remarks
11:50 - 12:30	40		Q&A

#### **FRESNILLO TODAY**



- **7** OPERATIONS ACROSS MEXICO
- WORLDS LARGEST SILVER PRODUCER & MEXICO'S LARGEST GOLD PRODUCER
- SILVER RESOURCES OF 2.2 BILLION OUNCES AND GOLD RESOURCES OF 39.1 MILLION
- GROWTH POTENTIAL SUPPORTED BY MINING CONCESSIONS ACROSS MEXICO, PERU AND CHILE
- SUBSTANTIAL, HIGH QUALITY PROJECT PIPELINE AND STRONG
   COMMITMENT TO DISCIPLINED AND SUSTAINABLE GROWTH
- DEDICATED AND EXPERIENCED MANAGEMENT TEAM SUPPORTED BY AN INTERNATIONAL HIGH CALIBER BOARD WITH A COMMITMENT TO STRONG GOVERNANCE
- FOCUS ON GREENFIELD AND BROWNFIELD PROJECTS THAT CAN BE DEVELOPED INTO LOW-COST, WORLD-CLASS MINES



## A DECADE OF PRODUCTION AND RESOURCE GROWTH PER SHARE



8.1% CAGR in Production since IPO

Silver : Gold 74 : 1

## **GROWTH AND RETURNS**

INVESTING IN GROWTH	GROWTH OUTCOME	RETURNS
Total Exploration Expenses from the last decade (2008 to 2018) US\$ 1,738.6 million	Increase in silver equivalent resources (2007-2018) 4,817.4 million ounces* (Increase of 143%)	EBITDA (2008 to 2018) Total EBITDA – US\$ 9,485m Average EBITDA – US\$ 862m Average EBITDA margin – 52%
Total CAPEX from the last decade (2008 to 2018) US\$ 4,950.7 million	Production growth (2007 to 2018) Silver – 80% Gold – 230%	Total Dividends Paid since IPO (2008 to 2018) US\$ 2,790.2 million

\*Measured, Indicated and Inferred resources, considering a Gold/Silver ratio of 74. Includes resources mined and processed.

## OUR KEY COMPETITIVE ADVANTAGES POSITION US TO MEET NEAR-TERM COMMITMENTS AND DRIVE LONG-TERM VALUE

#### **INVESTMENT PROPOSITION**



#### **TODAYS FOCUS**

#### CHALLENGES

## Flat Production

- Greater variability in the operations
  - Lower operational flexibility
  - Lack of skilled personnel
  - Contractor underperformance
- Higher costs
  - Longer haulage distances
  - Mining at deeper levels
  - Lower productivity
- Project execution
- Country risk uncertainty

#### FOCUSED ACTION PLAN

- Stabilise current operations and improve performance
- Prepare quality growth Juanicipio
- Intensive infill drilling programme
- Innovative training facilities
- [Improve/enhance our attraction and retention processes]
- Increase development rates
- Selective contractor base including larger and more experienced international contractors
- Improve operational control and short term planning
- Infrastructure projects
- Improve mine coordination and efficiency with IT
- Increase utilisation indicators
- Efficiency agreements with union
- Implement innovation projects (LNG)
- Project development framework to reflect permitting and construction timings/considerations
- Proactive communications with government officials through the mining and industry chambers and directly



## **OPERATIONAL REVIEW**

## **ANDRÉ SOUGARRET - CHIEF OPERATING OFFICER**



## **FIRST IMPRESSIONS**

- Major Mexican business with long track record
- Cultural commitment to safety, community and staff development
- Magnificent resource base massive long term sustainable operation
- Manageable near term operational challengers that are being proactively addressed
- Employees have a good level of technical ability

## **CORE AREAS OF FOCUS**

- 1. Safety
- 2. Addressing near term operational challenges head-on
- 3. Reduce costs and improve efficiency of our assets
- 4. Strengthen the long term planning
- 5. Delivering sustainable turnaround of Fresnillo

#### **SAFETY**

## SAFETY PERFORMANCE

Lost Time Injury Frequency Rate







# Lost Time Injury Frequency Rate (LTIFR) Monthly Data — 12 Month Rolling Average 11.60



Number of accidents per 1,000,000 hours

## **SAFETY**

## "I CARE, WE CARE" PROGRAMME - STRATEGIES

- Global health and safety programme
- Based on shared values across the entire organisation "caring for our people"
- Driven by senior managment
- Focus on high potential incidents



LEADERSHIP VALUES-DRIVEN LEADERSHIP



ACCOUNTABILITY INTEGRATION OF SAFETY AND OPERATIONAL MANAGEMENT SYSTEMS



**RISK COMPETENCIES – BEHAVIOURS** A MATURE AND "RESILIENT" SAFETY CULTURE



**RISK COMPETENCIES – SYSTEMS** ESTABLISH A RISK-BASED MANAGEMENT SYSTEM

LEARNING ENVIRONMENT REDUCE RISKS THROUGH ENGINEERING, SYSTEMS, BEHAVIOURS AND LESSONS LEANED

- RESILLO
- SENIOR LEADERSHIP EDUCATION COURSES
- SUPERVISOR EDUCATION COURSES
- COACHING OUR PEOPLE
- MOVE SAFETY TO LINE MANAGEMENT
- SENIOR MANAGEMENT INVOLVEMENT IN PROCESSES, SYSTEMS, OPERATIONS AND REPORTS
- STEPBACK & THINK
- POSITIVE RECOGNITION
- INTERNAL DOCUMENTS ALLIGNED WITH ISO STANDARDS
- CRITICAL RISK CONTROL PROTOCOLS AND ORGANISATIONAL
   IMPLEMENTATION
- COMMUNICATE AND IMPLEMENT IMPROVEMENTS AND CORRECTIVE ACTIONS
- PEER REVIEWS EYE ON RISK

## TAILINGS DAMS - REVIEW UPDATE

## Fresnillo remains committed to updating TSF governance practices to meet all industry standards



- Internal annual peer reviews
- Water quality monitoring and control
- Third party risk review
- External consultants for design, analysis and construction
- Environmental reviews and certification by regulators
- Incorporation of international design criteria in designs for new TSFs

Fresnillo PLC	Site	Status	
Minera Penmont	Depósito Herradura	On operation	ģ.
Minera San Jullán	Depósito 1	On operation	¢.
Minera Saucito	Depósito 1	On operation	φ
	Depósito 1	On operation	Ŷ,
Mienera Mexicana	Depósito 2	On operation	φ
La Gienega	Depósito 1         On opera           Depósito 1         On opera           Depósito 2         On opera           Depósito 3         On const           Depósito 3         On const           Depósito 3         On const           Depósito 8         On opera           Depósito San Carlos         On opera           Sejon         Closed           Sección II         Closed           Emergencia         Closed           Las Torres         Closed           Las Torres Cedros 1         Closed	On construction 1	
	Depósito Beleña	Closed	φ.
	Depósito Los Chinos	On operation	φ
	Deposito San Carlos	On operation	¢.
	Depósito San Luis	On operation	Ŷ,
Minera Fresnello	Antigua	Closed	φ.
	Sajon	Closed	Ŷ.
	Sección II	Closed	Ŷ.
	Emergencia	Closed	Ŷ
	Las Torres	Closed	φ
	Las Torres Cedros 1	Closed	φ.
	Las Torres Cedros 2	Closed	φ.
	Las Torres Cedros 3	Closed	φ.
Other Closed TSF	Las Torres Cedros 4	Closed	Ŷ.
	Las Torres Coronelas 1	Closed	Ŷ
	Las Torres Coronalas 2	Closed	ę
	Tocavos	Closed	8

A series of initiatives were launched in early 2019 to align governance practices with current best practice

- · Updating the inventory of TSFs and validating data register
- Starting a programme of third party (Wood PLC) Dam Safety Inspections (DSIs) for TSFs
- Establishment of an Independent Tailing Review Panel (ITRP)
- Accelerated programme of independent expert site reviews for all sites

Fresnillo has engaged ITRP to advise on design and implementation of new a governance standard and organisational structure

- The new governance standard, based on ICOLD, CDA, MAC and ICMM guidelines, is being formalised and implemented
- Overarching organisational structures are being implemented
- Currently identifying and engaging Engineers of Record (EoRs) for all sites
- Initiating programme of Dam Safety Reviews (DSRs) for all sites (to be combined with engagement of EoRs where possible)
- Intensified initial period of participation by ITRP

## FRESNILLO PLC – GROUP LEVEL

OPERATIONAL P	RIORITIES	KEY OBJECTIVES		INVESTING IN THE DRIVERS	
GOLD PRODUCTION (KOZ)	761.7	<ol> <li>Increase personnel safety</li> <li>Operate the seven mines at full capacity and as efficiently as possible</li> <li>Focus on costs and</li> </ol>	885 ±1%	<ol> <li>Operational discipline and best practices</li> <li>Flexible long term mine plan</li> <li>Mining infrastructure and</li> </ol>	665 ±5%
SILVER		<ol> <li>increasing productivity</li> <li>Implement industry best practices</li> <li>Prepare mines for the medium &amp; long term</li> <li>Extend mine life by</li> </ol>		<ul> <li>preparation and mine development on time</li> <li>4. Data and technology</li> <li>5. Technical competences and supervision skills</li> </ul>	
PRODUCTION (MOZ)	47.0	converting resources into reserves	55 ±1%		71 ±5%
	2015A		2019E		2022E

## **FRESNILLO MINE**

## **OVERVIEW**

Ore grade (g/t)	220		190 ±1%		215 ±5%
SILVER PRODUCTION (MOZ)	15.6	<ol> <li>Decreasing vein width, increased dilution</li> <li>Ore grade variability</li> <li>Increased base metal content</li> <li>Contractor under-</li> </ol>	13.2 ±1%	<ol> <li>FOCUSED ACTION PLAN</li> <li>1. Dilution control: improved appraising, drilling, and blasting</li> <li>2. Infill drilling, sampling and assaying</li> <li>3. Beneficiation plant</li> </ol>	21.0 ±5%
_	2015A	performance / development delays 5. Deep infrastructure	2019E	<ol> <li>Rationalise contractors, tunnel boring machine</li> <li>Increase productivity</li> <li>Shaft deepening, pumping and elevator</li> </ol>	2022E

## **FRESNILLO MINE**





#### 1. DECREASING VEIN WIDTH, INCREASED DILUTION

## **Action Plan**

- Topographic scanner
  - Implementing full 3D cavity monitoring system scanning
  - 51% of total production stopes
- Improved drilling techniques
- Adjust blasting patterns
- Adjust size of equipment



- Dilution reduced to 34% by 2020 and to 31% by 2021
- Improvement in ore grade to 210-225 g/t by 2022
- Enforce stronger operational control procedures

## **FRESNILLO MINE**

**2. ORE GRADE VARIABILITY** 

#### 300 258 250 227 **230** 220 214 200 g/t Ag 150 100 50 2014 2015 2016 2017 2018 100% 12% 20% 21% 26% 31% 80% 60% 40% 56% 53% 50% 39% 38% 20% 0% 2014 2015 2016 2017 2018

Cut & Fill Bench & Fill Development ore

#### DEVELOPMENT ORE WITH LOWER ORE GRADE

## **Action Plan**

- Infill drilling programme
  - Reduce drilling pattern from 150m to 75m, and up to 40m in some areas
- Sampling and assaying
  - Sampling procedure review, additional qa/qc steps introduced
  - 3d scanning technology for mapping introduced
  - Exploring methods to improve sample collections
- QA/QC & Laboratories
  - Improved sample preparation procedure
  - Stricter qa/qc procedures & exploration service agreement
  - Hiring additional technical staff to increase focus on qa/qc

- Continue infill drilling programme in 2020 (85-90k mts)
- 85% of samples below 20% of variability

## FRESNILLO

## **3. CONTRACTOR UNDERPERFORMANCE AND DEVELOPMENT DELAYS**



## **Recent challenges with contractors:**

- Changes in administration
- Lower equipment availability, and corrective maintenance required
- Breach of safety protocols by contractors

## **Action Plan**

- Increase development to an estimated average of 3,150 mts per month in 2019
- Rationalise contractors: 4 houses developing 1,000m per month each
- Review **incentive scheme** for contractors
- Tunnel boring machine: commissioned in Nov 2019
- Increase services for mine preparation (ventilation, water drainage)

- Increase development rates to 3,500-3,800m per month by year end 2020
- Ramp-up tunnel boring machine in 1Q 2020
- Hire a new contractor house in 1Q 2020

## FRESNILLO

## **3a. TUNNEL BORING MACHINE**

- Capex: US\$22.7 million
- Start date: Dec 2016
- Finish date: Q4 2019
- Ramp up: 1Q 2020
- 300 mts per month
- Total of 11 km will be developed







## **FRESNILLO MINE**

## **4. DEEP INFRASTRUCTURE**



60% of haulage is currently through ramps

## **Action Plan**

- **Deepen San Carlos shaft**: access 56% of reserves through extending existing 550m shaft to 990m
  - \$35m capex
  - Start date: Jun 2016
  - End date: Q4 2020
- San Alberto General pump station: drainage at 720m by Q4 2020 (\$11m capex)
- Alimak elevator: Reduce personnel travel time underground by 1 hour by Q3 2020 (\$5m capex)

## TARGET

Shaft deepening, pumping and elevator complete by Q3-Q4 2020

## **FRESNILLO MINE**

## **5. PRODUCTIVITY**





## **Action Plan**

- Reduce downtime through improved access to work areas
- Semi automatic equipment
  - 12-15% more productivity
- Sunday shifts
  - Currently 4,000-4,500 tpd
- Reliability Centered Maintenance
  - 1<sup>st</sup> phase: critical mine equipment
  - 2<sup>nd</sup> phase: Include contractors' equipment
  - 3<sup>rd</sup> phase: beneficiation plant equipment

- Increase effective work time by 30 mins
- Improve reliability
  - Mean time before failure (MTBF 12 hrs)
  - Mean time to repair (MTTR 8 hrs)

ORE GRADE

## **FRESNILLO OUTLOOK**

#### **OPERATIONAL KPIs**



\* Includes pyrites plant production

	2015A		2019E		2022E
SILVER PRODUCTION (MOZ)	22.0	<ol> <li>Approaching greater ore grade variability</li> <li>Narrower veins</li> <li>Deeper production area</li> <li>65% of production from Jarillas vein</li> </ol>	18.4 ±1%	<ol> <li>Improved appraising, drilling, and blasting</li> <li>Infill drilling, dilution control</li> <li>Jarillas shaft deepening; ongoing development</li> </ol>	18.0 ±5%
Ore grade (g/t)	328		227 ±1%		211 ±5%
OVERVIEW					
SAUCITO					

## SAUCITO

## **1. SAUCITO MINE LAYOUT**







## **SAUCITO**





# $\begin{array}{c} 60 \\ 50 \\ 40 \\ 40 \\ 40 \\ 41 \\ 30 \\ 20 \\ 10 \\ 0 \\ 2014 \\ 2015 \\ 2016 \\ 2017 \\ 2018 \end{array}$

## **Action Plan**

- Topographic scanner
  - Implementing full 3D cavity monitoring system scanning
  - 51% of total production stopes
- Improved drilling techniques
- Adjust blasting patterns
- Adjust size of equipment

- Dilution reduced to 37% by 2020 and to 34% by 2021
- Improvement in ore grade to 210-240 g/t by 2022
- Enforce stronger operational control procedures

## **SAUCITO MINE**

## **2. ORE GRADE VARIABILITY**





#### DEVELOPMENT ORE WITH LOWER ORE GRADE

## **Action Plan**

- Infill drilling programme
  - Reduce drilling pattern from 150m to 75m, and up to 40m in some areas
- Sampling and assaying
  - Sampling procedure review, additional qa/qc steps introduced
  - 3d scanning technology for mapping introduced
  - Exploring methods to improve sample collections
- QA/QC & Laboratories
  - Improved sample preparation procedure
  - Stricter qa/qc procedures & exploration service agreement
  - Hiring additional technical staff to increase focus on qa/qc

- Continue infill drilling programme in 2020 (110-120k mts)
- 85% of samples below 20% of variability

## SAUCITO





# **Action Plan**

- Increase development to an estimated average of 3,250 mts per month in 2019
- Rationalise contractors: 4 houses developing 1,000m per month each
- Review incentive scheme for contractors
- Increase services for mine preparation (ventilation, water drainage)

#### **Recent challenges with contractors:**

- Personnel turnover
- Lower equipment availability, and corrective maintenance required
- Breach of safety protocols by contractors

- Increase development rates to 3,500-3,800m per month by end-2020
- Hire a new contractor house in 2H 2020

## **SAUCITO**

## **OUTLOOK**

ORE GRADE



\* Includes pyrites plant production

SAN JULIÁN					
VEINS					
Ag ore grade (g/t)	173		115 ±1%		145 ±5%
Au ore grade (g/t)	2.5		1.6 ±1%		1.4 ±5%
SILVER PRODUCTION (MOZ)	2.1	<ol> <li>KEY CHALLENGES</li> <li>Disperse, narrow veins</li> <li>Ore grade variability</li> <li>Convert resources into reserves</li> </ol>	4.3 ±1%	<ol> <li>FOCUSED ACTION PLAN</li> <li>1. Improved appraising, drilling, and blasting</li> <li>2. Infill drilling, dilution control</li> </ol>	4.7 ±5%
GOLD PRODUCTION (KOZ)	31.4	<ol> <li>Water for industrial consumption</li> </ol>	62.1 ±1%	<ol> <li>Exploration programme and mining works</li> <li>Construction of water reservoir</li> </ol>	39.0 ±5%
	2016A		2019E		2022E

## SAN JULIÁN

## DISSEMINATED ORE BODY

Ag ore grade (g/t)	180		139 ±1%		197 ±5%
Au ore grade (g/t)	0.1		0.1		0.1
		KEY CHALLENGES		FOCUSED ACTION PLAN	
SILVER PRODUCTION (MOZ)	4.6	<ol> <li>Stability of the mine</li> <li>Increase resource base</li> <li>Increase productivity</li> </ol>	8.6 ±1%	<ol> <li>Change mine sequencing to maintain geotechnical stability</li> </ol>	11.4 ±5%
-		4. Water for industrial consumption		<ol> <li>Deploy efficiency teams</li> <li>Construction of a water</li> </ol>	
PRODUCTION (KOZ)	1.7		2.4 ±1%	4. Intensive exploration	2.5 ±5%
	2017A		2019E		2022E

## SAN JULIÁN

## **DISSEMINATED ORE BODY**

- Backfill mining method
- Stope unit 16 m x 25 m x 20 m (WxHxD)
- Parallel sequence in three areas
- Rock falls issues resulting from mining along horizontal advances
- Adjust sequence to concave shape
- Adjustment is expected to be concluded by 1H 2020







## SAN JULIÁN

## WATER RESERVOIR

- Capex: US\$15 million
- Indigenous consultation: 3Q 2018
- Start date: 4Q 2018
- Finish date: 4Q 2019
- **Capacity:** 1,200,000m<sup>3</sup>
- Ensure water supply for the San Julián mine





CIÉNEGA					
OVERVIEW					
Silver Ore grade (g/t)	129		162 ±1%		181 ±5%
Gold Ore grade (g/t)	2.1		1.6 ±1%		1.8 ±5%
SILVER PRODUCTION (MOZ)		KEY CHALLENGES		FOCUSED ACTION PLAN	
	4.8	<ol> <li>Safety and security</li> <li>Increase resources</li> <li>Increase tailings capacity</li> <li>Longer haulage distances</li> <li>Depletion of San Ramón</li> </ol>	5.9 ±1%	<ol> <li>Focus on exploration</li> <li>Construction of tailings dam 3</li> </ol>	6.2 ±5%
_				<ol> <li>Strict cost control</li> <li>Maintain communication</li> </ol>	
GOLD PRODUCTION (KOZ)	85.7	satellite mine in 2021	63.8 ±1%	with communities and employees	67.5 ±5%
	2015A		2019E		2022E

# CIÉNEGA

# **CIÉNEGA LAYOUT**

![](_page_34_Figure_3.jpeg)

# CIÉNEGA

# **CIÉNEGA LAYOUT**

![](_page_35_Figure_3.jpeg)
CIÉNEGA						
<ul> <li>Conclude construction of the tailings dam 3 in 1Q 2020</li> <li>Infill drilling programme (48-50K mts)</li> <li>Control of haulage costs</li> </ul>		<ul> <li>Optimise operation costs</li> <li>Convert resources into reserves to the west and east of Ciénega</li> <li>Sustaining capex control</li> </ul>		<ul> <li>Engineering and Construction for tailings dam #4</li> <li>Develop long term mine plan alternatives</li> <li>Evaluate expansion to 2000 tpd</li> </ul>		
	2019 - 2020		2020 - 2	021	2022 - 2025	
	CONSOLIDATE OPERATIONS		OPTIMISATION Reduced cost		CONSOLIDATE LONG TERM MINE PLAN Consolidate potential	
			ENAB	LERS		
	SAFETY	MAI	INTENANCE	TECHNOLOGY		UNION RELATIONS
TOTAL EXPECTED ANNUA SILVER PRODUCTION	5.5 - 6.0 Moz		5.5 – 6.0	Moz		6.0 - 6.5 Moz
TOTAL EXPECTED ANNUA GOLD PRODUCTION	60 - 65 Koz		60 - 65	Koz		65 - 70 Koz
SILVER ORE GRADE (G/T)	155 - 165 g/t		160 - 17	0 g/t		170 - 190 g/t
GOLD ORE GRADE (G/T)	1.6 - 1.7 g/t		1.6 - 1.7	′ g/t		1.7 - 1.9 g/t

HERRADURA					
OVERVIEW					
Ore grade HL (g/t)	0.57		0.5 ±1%		0.7 ±5%
Ore grade DLP (g/t)	2.1		1.5 ±1%		1.1 ±5%
		<b>KEY CHALLENGES</b> 1. Deeper pit, higher		FOCUSED ACTION PLAN         1. Review options for mine	
GOLD PRODUCTION (KOZ)	399	<ol> <li>consumption of inputs</li> <li>Increase in stripping ratio</li> <li>Control of haulage costs</li> <li>Control stability of the open pit walls</li> <li>Expansion of the pit vs Centauro Deep evaluation</li> <li>Increase gold in sulphide</li> </ol>	474 ±1%	<ol> <li>plan</li> <li>Dual fuel system</li> <li>Instrumentation of slope monitoring</li> <li>Continue infill drilling and geotechnical drilling</li> <li>Install vibrating screens to increase processing</li> </ol>	343 ±5%
	2015A	ore	2019E	capacity	2022E

#### HERRADURA

**1. INCREASING STRIPPING RATIO** 

#### 6.00 5.00 4.60 4.82 4.00 4.12 3.72 4.00 Stripping ratio 3.00 2.00 1.00 2014 2016 2017 2015 2018



## **Action Plan**

- Ongoing review of LOM and profitability
- Deploy efficiency and cost reduction initiatives
  - Shorten distance to leaching pads and waste dumps
  - Implement dual fuel systems in trucks
  - Optimise consumption of operating materials
- Review the design of the pit walls

#### TARGET

- Install fuel dual system in 70 trucks: 30 in 2020, 10 in 2021 and 30 in 2022
- Geotechnical campaign in 2020
- Geotechnical model in 2Q 2021

## HERRADURA

## **2. GEOTECHNICAL MODEL**



#### HERRADURA

#### OUTLOOK





#### **NOCHE BUENA**

#### OUTLOOK





## MODELLING AND PLANNING CYCLE

#### **OVERVIEW**

 Resources & reserves audited & certified by independent competent persons under JORC every year



#### **RESERVE ORE GRADE VS PRODUCTION ORE GRADE**

#### FRESNILLO

	2015	<b>5</b> 2018	2019
Grade in production (Ag g/t)	220	214	187
Grade in reserve (Ag g/t)	266	240	243
Dif (Ag g/t)	- 46	- 26	- 56
% Chg	- 17.3	- 10.9	- 23.0

#### **RESERVE GRADE**

- Silver grade decrease in reserves was larger in the initial years 2008-2012
- Reserves have been replaced with lower silver ore grade due to vein nature at depth
- Reserve grades are stabilising at current levels
- Increased certainty as drilling spacing is reduced from an average of 150 mts to 75 mts, and up to 40 mts in some areas

#### **PRODUCTION GRADE**

- Ore grade in production from 2008-2013 was above reserve grade
- Since 2013 ore grade in production has been below the reserve grade
- Gap between reserve grade and production grade from 2016-2018 has been between -10% and -23% and the target is to minimise the difference to less than 10% in two years.
- Actions in progress:
  - More dilution control
  - Less marginal ore being processed as we increase development rates and operational flexibility
  - Infill drilling
  - Higher grades as we open more production stopes to the west in the upper area (2022 – 2026)

#### **RESERVE ORE GRADE VS PRODUCTION ORE GRADE**

#### SAUCITO

	2015	2018	2019
Grade in production (Ag g/t)	328	258	227
Grade in reserve (Ag g/t)	389	261	272
Dif (Ag g/t)	- 62	- 3	- 45
% Chg	- 15.8	- 1.3	- 16.5

#### **RESERVE GRADE**

- Reserves have been replaced with lower silver ore grade due to vein nature at depth
- Year on year differences of the reserves at the end of 2016-2018 have been decreasing from -21.7%, +6.5% and +4.2%, reflecting that it has stabilised
- Increased certainty as drilling spacing is reduced from an average of 150 mts to 75 mts, and up to 40 mts in some areas

#### **PRODUCTION GRADE**

- Ore grade in production has been within reasonable variability vs.ore grade in reserves (2016: -3.3%; 2018: -1.3%)
- However the gap of the ore grade in production vs ore grade in reserves widens in 2019. The objective is to return to the previous variability
- Actions in process:
  - More dilution control
  - Less marginal ore processed as we increase development rates and operational flexibility
  - Infill drilling
  - Higher grades as we open more production stopes in the Jarillas and Natalias veins

## **RESERVE ORE GRADE VS PRODUCTION ORE GRADE**

## San Julián (Veins)

	2016	2018	2019
Grade in production (Au g/t)	2.47	2.01	1.60
Grade in reserve (Au g/t)	2.11	1.79	1.62
Dif (Au g/t)	0.36	0.22	-0.02
% Chg	16.9	12.1	-1.2

	2016	2018	2019
Grade in production (Ag g/t)	172	144	115
Grade in reserve (Ag g/t)	180	150	126
Dif (Ag g/t)	- 7.54	-5.94	-11.00
% Chg	- 4.2	-4.0	- 8.7

## San Julián (Disseminated Ore Body)

	2017	2018	2019
Grade in production (Au g/t)	180	154	139
Grade in reserve (Au g/t)	228	199	209
Dif (Au g/t)	-47.67	-44.63	-70.00
% Chg	-20.9	-22.4	-33.5

RESERVE GRADE	PRODUCTION GRADE
<ul> <li>Gold ore grade in reserves has decreased year on year</li> <li>Higher grade veins are in infill drilling in the South area</li> </ul>	<ul> <li>Gold ore grade in production has been above the reserve grade, until this year when it is expected to be in line with the reserve ore grade</li> </ul>
<ul> <li>Silver ore grade in reserves has decreased in two veins with development</li> <li>Higher grade veins are in infill drilling in the South area to compensate</li> </ul>	<ul> <li>Silver ore grade in production has been below the reserve grade due to the lower silver ore grade in two of the veins</li> <li>Development has recently reached the South veins</li> </ul>
<ul> <li>Silver ore grade in reserves is well established</li> </ul>	• Silver ore grade in production has been below the ore grade in reserves as a result of the adjustment to the mining sequence

#### MEASURES UNDERWAY

#### 4 TEAMS HAVE BEEN WORKING IN 2019 ON THE RESERVE (GEOLOGICAL) MODEL TO EVALUATE:

- Interdisciplinary teams comprised of operations and exploration personnel
- Identify areas of opportunity, following recommendations from the reserve and resources auditors.
- Focused on:

The accuracy of mine mapping and sampling

The geostatistical parameters employed, and infill drilling spacing

The extent of dilution

The quality of the Fresnillo lab assays

#### **CONCLUSIONS TO DATE**

- The reserve model at the Fresnillo mine meets industry standards, with local variances of up to 10 g/t silver.
- Infill drilled areas tend to have lower ore grade, and areas with new development have increased ore grade.
- The reserve model at the Saucito mine also meets industry standards, and shows local variances with the infill drilling. The overall reserve silver grade is stable.
- Sections of the Jarillas vein at Saucito resulted in lesser width with the infill drilling, reducing tonnage.
- The reserve model is dynamic, annual mining depletion and at the same time addition of tons from inferred resources conversion and reserves on new veins will result in future changes to the overall reserve tonnage and grade



## FRESNILLO

## **OBJECTIVE**

#### 95% of our growth has been organic

#### Stringent criteria

- 15 years of Resources
- 7-10 years of Reserves
- Internal IRR in excess of 15%
- Use prices of US\$1,250 & US\$15 /oz for gold and silver respectively
- Profitable through the full mining cycles sensitivity analysis
- Favourable/manageable mining jurisdictions

Advance projects with the potential to improve the overall quality of the asset base

Dynamic risk assessment

Addressing stakeholder issues from an early stage

Project prioritisation considering all of the above

## FRESNILLO

## **OPTIMISATION OF BENEFICIATION PLANT**

## **Three phases:**

- 1. Zinc thickener installed in 2017
- 2. Increase flotation cells (Ongoing)
- 3. Install vibrating screens to increase capacity to 9000 tpd **only when the mine is developed and prepared for this expansion:**





## Main requirements to increase capacity

- Robbins equipment MDM 5000 for W San Alberto
- San Carlos shaft deepening
- Infrastructure for East and West mine cages for personnel transport and time reduction
- Implement workshops in different areas of the mine
- Develop a pumping station from level 695 to surface
- Increase contractors development
- Agree a strategy with the union in order to increase labour productivity

#### FRESNILLO FLOTATION PLANT (2ND PHASE OF THE PYRITES PLANT)

## **OVERVIEW**

The second phase of the Pyrites plant is expected to increase silver and gold recoveries at the Fresnillo mine by processing historic and ongoing tailings.



KEY METRIC ESTIMATES (100% BASIS)*			
Estimated capex	US\$53.8 million		
Expected avg. annual production (Fresnillo) (2020- 2024) Note: Higher grade expected in first years	2 - 5 moz of silver 7 - 15 koz of gold		
Expected project completion	2H20		
Capacity	14,000 tpd		



#### JUANICIPIO

## **PROGRESS HIGHLIGHTS - PLANNING**



# April 2019 project approval based on a Feasibility Study developed from Basic Engineering for the project

- ✓ Detailed Engineering has now been advanced sufficiently to allow:
  - Freezing of project scope
  - Detailed estimating, scheduling and execution planning
  - Establishment of Control Budgets and Control Schedules
  - Full mobilisation to site and initiation of Process Plant construction
- ✓ Detailed Engineering did not result in any material changes to project scope:
  - Mine layout production plan
  - Plant head grades
  - Plant process design and production rates
  - Plant recovery rates
  - Concentrate production (quantity and quality)

## JUANICIPIO

## **PROGRESS HIGHLIGHTS**



- Mine development according to plan
  - 22Km still to be developed
  - First production stope expected October 2020
- **Construction of the flotation plant** 
  - December 2020 optimistic
  - Review and update in due course
- Original tailings dam construction permitted

	ATTRIBUTABLE SILVER PRODUCTION		
	Feasibility Study Expected Production		
	(Moz)	(Moz)	
2021 – Ramp up (at 65% nameplate capacity for the FS estimate)	4.3	3.6	
2022 – Ramp up (at 95% nameplate capacity for the FS estimate)	6.2	6.5	

## JUANICIPIO

## **CURRENT PROJECT LAYOUT**



Mine entry and infrastructure

## JUANICIPIO

## PROCESS PLANT GENERAL ARRANGEMENT



## JUANICIPIO

## PROCESS PLANT BASIC FLOW SHEET



## JUANICIPIO

## **PROCESS PLANT EQUIPMENT**





- 90% of all critical process plant equipment requisitioned
- 70% of all critical process plant equipment ordered with firm delivery dates
- Outotec TC 20 and TC 50 flotation cells built and on site
- 35 meter tailing thickener built and on site

## JUANICIPIO

## **PROGRESS HIGHLIGHTS – MINE DEVELOPMENT**



## **Critical Mine Equipment Procurement**

- 100% of mobile mining equipment required for start of production requisitioned
- Sandvik cable installer manufactured and on site
- Horizontal development 26% complete
- Vertical development 23% complete

## **ORISYVO PROJECT**

#### CHIHUAHUA



- Underground resources of 4.65 moz of gold at 1.98 g/t. (50 % oxides, 50% sulphides)
- Open-pit alternative: 9.6 moz of gold at 1.0 g/t, stripping ratio high
- Advancing metallurgical studies in sulphide material (65 to 80% recoveries)
- Advancing geotechnical studies for mine design and feasibility study
- Pending additional exploration

## **ORISYVO – INITIAL MODEL**





# **EXPLORATION**

#### **EXPLORATION**

## INVEST

in exploration through

the cycles

## REPLACE

at least reserves mined each year districts in selected gold-silver belts (budget 70% brownfield, 30% greenfield)

**CONSOLIDATE** 

On quality, min 2 Moz gold equivalent

FOCUS

Community & Environment engagement

**ESG** 

#### **PROJECT CRITERIA HURDLES**

Location	Focused on Mexico and other LATAM countries
Size	Minimum size of 2 Moz gold equivalent
District Potential Metallurgy / Ore grades Extraction Costs	Quality projects showing strong and consistent recoveries and grades, expected extraction costs in the lowest quartile and strong growth potential
Land ownership	Look to purchase surface land – consolidate districts
ESG	Grow community trust and support from an early stage. Minimise our environmental impact

#### **EXPLORATION STRATEGY**



#### **MEXICO**

- Extensive exploration concessions in key districts
- Herradura, Fresnillo, San Julián, Ciénega Districts (reserves and resources)
- Guanajuato, Orisyvo, Rodeo, Tajitos advanced projects (resources)

FOCUS BUDGET ON THE FRESNILLO AND SAN JULIAN DISTRICTS MAINTAIN AND COMPLETE ASSESSMENT WORK ON PROJECTS

#### PERU

- Exploration concessions on prospective areas
- Sto. Domingo, Supaypacha, large potential

BUDGET ON PERMITS AND PARAMETRIC HOLES

## CHILE

- Land position 2 options 15,000 hectares
- Capricornio, Condoriaco, large potential

BUDGET MINIMUM ON OPTION COMMITMENTS

#### FRESNILLO PLC STRATEGIC PORTFOLIO: A MOVING PIPELINE



#### **RISK ASSESSMENT**



3, 8, 10, 1, 4







SAN JULIAN DISTRICT





#### **RISK ASSESSMENT**

- **1.** Impact of metal prices
- 2. Potential actions by government
- 3. Access to land
- 4. Security
- 5. Public perception against mining
- 6. Safety
- 7. Union relations
- 8. Exploration
- 9. Projects performance
- **10.Environment**

## WHY FRESNILLO?

- Best value margin
- In house experience
- 9 targets identified
- 3 areas in drilling with 15 rigs

DISTRICT





## WHY SAN JULIÁN?

- Convert resources into reserves
- Successful gold-silver vein exploration
- 3 DOB (Disseminated Ore Body) silver type targets to be explored
- Follow-up ground geophysics and mapping in process

N JULIÁN DISTRICT




# SAN JULIÁN DISTRICT

# Easterrish & Barness Charles, Barn + 1984 de prot Committee Dennis (Charles), Finne + 101as in prof RESISTIVIDAD 100m Prof/Aarhusgeo RESISTIVIDAD 200m Prof/Aarhusgeo 30 80 120 170 220 270 320 370 420 480 540 620 750 3990

# SAN JULIÁN DISTRICT, RESISTIVITY MAPS, LATEST VERSATEM AIRBORNE TECHNOLOGY







#### HERRADURA MINE, SONORA



- Geotechnical study in process
- Grade and stripping sensitive
- Cost alternatives, feasibility study
- Exploration in district

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Ore Zones

#### **GUANAJUATO DISTRICT, MEXICO**



#### **GUANAJUATO NORTH**

- 1. Gigante 2. La Fragua
- 3. Sabino
- 4. Veta Madre N
- 5. La Luz
- 6. Opulencia 7. Nevada

#### **GUANAJUATO CENTER**

- 8. Desquite-San Cosme
- 9. Desquite-San 9. Desquite SE 10. San Gregorio 11. Cebolletas 12. Villalpando

- 13. Mesa Paredes

- 14. Nayal 15. Apolo 16. Gloria-Hallazgo 17. Falla del Cubo
- 18. Sirena
- 19. Beleña
- 20. Ventana de Allende

#### **GUANAJUATO SOUTH**

- 21. Co Blanco-Naranjillo 22. La Joya 23. San Diego 24. Potrerillos

- 25. Crucitas
- 26. Falla Antonia

3. Target priority









# TAJITOS, SONORA





# PERÚ MINERALISED TRENDS, MINES, AND FRESNILLO PROJECTS

Mineralised trends, mines, and Fresnillo projects

- Mineralised trend
- ★ Gold mine
- **Silver mine**
- Fresnillo project 2020
- **Fresnillo mining claims**
- City



- Large gold silver potential
- Unexplored, claims controlled by Fresnillo plc
- Some community and permitting advance

# SANTO DOMINGO DISTRICT, PERU

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BREAK

LSE: FRES BMV: FRES www.fresnilloplc.com



INCOME	<b>STATEMENT</b>	EXCERPT	(IFRS)
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	ACCUM JUNE				CHANGE	
CONCEPT	2019	%	2018	%	\$	%
ADJUSTED REVENUES	1,069.0		1,189.9		(120.9)	(10.2)
HEDGING (METALS)	0.1		0.0		0.1	N/A
TREATMENT AND REFINING CHARGES	(67.1)		(74.8)		7.8	10.4
REVENUES	1,002.0	100.0	1,115.0	100.0	(113.1)	(10.1)
ADJUSTED PRODUCTION COST	(566.4)	(56.5)	(429.9)	(38.6)	(136.5)	(31.7)
PROFIT SHARING	(4.3)	(0.4)	(11.8)	(1.1)	7.5	63.3
DEPRECIATION	(240.5)	(24.0)	(192.8)	(17.3)	(47.6)	(24.7)
CHANGE IN INVENTORIES	<b>`14.0</b> ´	<b>1.4</b>	21.7	<b>`1.9</b> ´	(7.7)	(35.3)
UNPRODUCTIVE COST	0.7	0.1	(0.0)	0.0	0.7	N/A
COST OF SALES	(796.5)	(79.5)	(612.9)	(55.0)	(183.6)	(30.0)
GROSS PROFIT	205.5	20.5	502.2	45.0	(296.7)	(59.1)

# CONSOLIDATED COST INFLATION 1H19 (USD BASED)

		CONSOLIDATED				
		Unit price increase %	Weight (*)	Weighted average		
LABOUR:						
	UNIONIZED PERSONNEL	6.7%	5.8%	0.4%		
	EMPLOYEES	4.7%	2.7%	0.1%		
	WEIGHTED	6.0%				
OPERATING MATERIALS		2.0%	20.9%	0.4%		
ENERGY:						
	ELECTRIC ENERGY	3.3%	6.3%	0.2%		
	DIESEL	11.3%	11.5%	1.3%		
	GASOLINE	10.7%	1.3%	0.1%		
	WEIGHTED	8.6%				
CONTRACTORS		3.1%	29.7%	0.9%		
MAINTENANCE		1.0%	15.9%	0.2%		
FREIGHTS		10.1%	1.0%	0.1%		
INSURANCE		1.1%	0.5%	0.0%		
OTHERS		2.1%	4.3%	0.1%		
TOTAL				3.9%		

Important Note: Excluding the average devaluation effect, cost inflation would have been 4.2%

# ADJUSTED PRODUCTION COST ANALYSIS (CONSOLIDATED)





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\* DOB = Disseminated Ore Body

■ 1H 18 ■ 1H 19

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#### **ALL IN SUSTAINING COST BY - PRODUCT**



#### 1H 2019 vs 1H 2018

1H 18 1H 19



Fresnillo



#### CASH COST (US\$ per silver ounce)



#### ALL IN SUSTAINING COSTS (US\$ per silver ounce)



Increase of +11.95 USD/MT due to:

- Increase in development to cost (+1,083 mts +14.1%)
- Increase in the use of operating materials and maintenance
- Inefficiencies due to the lower volume processed (from 1.26 to 1.19 Million Tonnes, -5.1%)
- Cost Inflation +3.43%

**Increase of +3.94 USD/Oz due to:** (In Addition to the increase in CPT)

- Lower ore grade (from 221.8 to 187.0 g/t, -15.7%)
  Note: Combination of lower ore grade and throughput = -21.2% decrease in silver production
- Decrease in by-product credits due to lower Zinc (-29.0%) and Lead production (-19.1%)

**Increase of +5.67 USD/Oz due to:** (In Addition to the increase in CC)

• Effect of lower volume of silver sold on AISC items not included in cash cost

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# CASH COST (US\$ per silver ounce)



#### ALL IN SUSTAINING COSTS (US\$ per silver ounce)



Increase of +12.40 USD/MT due to:

- Pyrites Plant (new operation) start-up in 2H 2018
- Increase in development to cost (+2,452 mts, +32.9%)
- Increase in the use of operating materials and maintenance
- Inefficiencies due to lower volume of ore processed (-4.1%)
- Cost Inflation +2.15%

Increase of +1.11 USD/Oz due to: (In Addition to the increase in CPT)

- Lower ore grade (from 260.2 to 242.6 g/t, -6.8%) Note: Combination of lower ore grade and throughput = -11.5% decrease in silver production
- Mitigated by an increase in byproduct credits due to higher lead and zinc ore grades (+29.6% and 25.3% respectively)

**Increase of +2.14 USD/Oz due to:** (In Addition to the increase in CC)

- Increase in capitalised mine development (+1,227 mts, +14.8%)
- Effect of lower volume of silver sold on AISC items not included in cash cost



#### Increase of +11.1 USD/MT due to:

- Increase in activities of contractors due to narrower veins
- Increase in use of maintenance
- Cost Inflation +3.17%
- Mitigated by lower development to cost (-688 mts, -13.7%)

Increase of +187.45 USD/Oz due to: (In Addition to the increase in CPT)

• Decrease in gold production (-10.0%) due to lower ore grade (-6.6%) and lower recovery rate (-3.5%) Increase of +335.14 USD/Oz due to: (In Addition to the increase in CC)

- Increase in capitalised development due to the tailings dam #3 construction
- Effect of lower volume of gold sold on AISC items (administrative expenses)





Increase of +4.47 USD/MT due to:

- Increase in use of operating materials to improve stability in certain areas and also as a result of returning back to the normal pace of stope backfilling which was interrupted in 1H2018 due to lower availability of water
- Cost inflation +3.52%
- Mitigated by lower development to cost and higher economies of scale due to the increase in throughput (+3.4%)

**Increase of +0.85 USD/Oz due to:** (In Addition to the increase in CPT)

- Decrease in silver production (-4.1%) due to lower ore grade (from 151.7 to 137.0 g/t, -9.7%)
- Decrease in by-product credits due to lower gold production (-4.2%) and lower lead (-22.2%) and zinc (-14.2%) prices

**Decrease of -0.01 USD/Oz due to:** (In Addition to the increase in CC)

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• The increase in cash cost was compensated by lower sustaining CAPEX and mining works





# ALL IN SUSTAINING COSTS (US\$ per silver ounce)



Increase of +8.30 USD/MT due to:

- Increase in use of operating materials and personnel
- Cost inflation +3.52%
- Increase in development to cost (+1,023 mts, +28.2%)
- Mitigated with higher economies of scale due to the increase in throughput (+10.2%)

**Increase of +5.03 USD/Oz due to:** (In Addition to the increase in CPT)

0.58

H1 2019

- Decrease in silver production (-13.9%) due to lower ore grade (-21.1%)
- Decrease in by-product credit due to lower gold ore grade (-14.7%)

Increase of +5.95 USD/Oz due to: (In Addition to the increase in CC)

- Increase in capitalised development (+3,673 mts, +85.7%)
- Effect of lower volume of silver sold on AISC items (administrative expenses)
- Mitigated by decrease in sustaining CAPEX



CASH COST (US\$ per gold ounce)



#### ALL IN SUSTAINING COSTS (US\$ per gold ounce)



Increase of +7.77 USD/MT due to:

- Increase in stripping to cost (28.3 million tonnes) due to the reassessment of the number of mining components from 2 to 1 (Str. Ratio to cost from 2.3 to 4.8 equivalent to 24.5 million tonnes of waste)
- Lower volume of ore processed (- 3.9%)
- Increase in maintenance and higher consumption of operating materials due to longer haulage distances
- Cost inflation +4.26%

Increase of +405.42 USD/Oz due to: (In Addition to the increase in CPT)

 The favourable effect of the reassessment of the gold inventory at the leaching pads in 1H2018 (+98.9 thousand ounces in inventory) Increase of +209.44 USD/Oz due to: (In Addition to the increase in CC)

- Increase in sustaining CAPEX
- Compensated by lower capitalised stripping associated with the reassessment of the number of mining components form 2 to 1 (28.3 million tonnes)





#### Increase of +2.58 USD/MT due to:

- Lower economies of scale as a result of the decrease in volume of ore processed (-26.7%)
- Cost inflation +5.65%

Increase of +49.13 USD/Oz due to: (In Addition to the increase in CPT)

• Lower speed of recovery at the leaching pads

**Decrease of -145.24 USD/Oz due to:** (In Addition to the increase in CC)

• Decrease in sustaining CAPEX as a result of the depletion of the mine and lower capitalised stripping

#### CONSOLIDATED BY METAL **SILVER MINES GOLD MINES** 1H 2019 1H 2018 1H 2019 1H 2018 Silver / Gold AISC (USD/Oz) 839.9 10.71 7.45 973.9 Silver (Moz) / Gold (Koz) Volume Sold 20.69 23.03 327.1 360.7

# CONSOLIDATED IN EQUIVALENT SILVER OUNCES OR GOLD OUNCES

	PER OZ. S	ILVER EQ.	PER OZ. GOLD EQ.		
	1H 2019	1H 2018	1H 2019	1H 2018	
AISC (USD/Oz Eq)	11.83	10.39	1,025.9	827.5	
Equivalent Ounces (Ag-Moz; Au-Koz)	60.60	62.20	698.6	781.1	

CONSOLIDATED AISC (1H 2019 VS 1H 2018)



#### **SOCIAL & ENVIRONMENTAL PERFORMANCE**

#### OUR APPROACH TO SUSTAINABILITY AND SOCIAL CONTRIBUTION



We believe that responsible mining is compatible with high stakeholder expectations in terms of ethical, social and environmental performance, and recognise that our social licence to operate is dependent upon being trusted by our stakeholders. This underlines the importance of responsible business practices being deeply integrated into our business model, and of factors that affect stakeholders

ESG Imperatives to support the Business Strategy:

- Social acceptability
- Water and biodiversity stewardship
- Increase carbon resilience

#### **SOCIAL & ENVIRONMENTAL PERFORMANCE**

**COMMUNITY ENGAGEMENT** 

#### PURPOSEFUL ENGAGEMENT WITH OUR COMMUNITIES



# SOCIAL INVESTMENT PORTFOLIO

Create long-term value with our communities



It is about purpose: the industry struggles to engage around a purposeful story of what it stands for ICMM Stakeholder Survey 2017

#### **SOCIAL & ENVIRONMENTAL PERFORMANCE**

#### **COMMUNITY ENGAGEMENT**

### **PICANDO LETRAS "MINING LETTERS"**



**Purpose**: To promote the inclusion of all social actors through reading and dialogue in *elementary schools* 



28% of the children improved their comprehension skills and understanding of the reading.

**7**% improved their narrative skills, when telling others about the reading they listened to.

#### **EDUCATION: FIRST ROBOTICS**



**Purpose**: To promote the inclusion of all social actors through reading and dialogue in *elementary schools* 

- 1. Cabots (Penmont)
- 2. Potrobots (San Julian)
- 3. Jeunes d' Argent (Fresnillo)
- 4. Minebots (La Ciénega)

"Inspiration Award" at the Houston World Cup 2019

Schools	Kids	Teachers	Parents	Communities
75	8756	215	143	34



Coverage: All mining districts and development projects

School of Mineral de la Luz (Guanajuato)







Fresnillo's Robotics Family
#### **COMMUNITY ENGAGEMENT**

#### **HEALTH & SPORTS**



In partnership with the National University Foundation, we organise Health Weeks benefiting close to 8,000 people every year.



Comprising reclaimed tailings ponds and a zoo, our Fresnillo parks received an average of 2,000 visitors per month



Our football school, in partnership with Santos Football Club, has a capacity for 300 children in our Fresnillo District

#### **CAPACITY BUILDING**



We provide training and followup for Small and medium-sized enterprises (SMEs) and entrepreneurs.





We participate in regional clusters to contribute to the development of regional procurement capacities and talent development

#### **COMMUNITY ENGAGEMENT**

## **RAINWATER HARVESTING SYSTEMS – SAN JULIÁN**

Capacity building and support for the construction of 315 water harvesting systems as part of our shared benefits of the indigenous consultation of the San Julian Water Reservoir. The project benefited 1,055 persons in 15 communities



#### WATER STEWARDSHIP

#### **OUR APPROACH**



#### WATER STEWARDSHIP

#### **EFFICIENCY AND REUSE – CLOSED-CIRCUIT PROCESSES & WASTEWATER**





Thickeners (left), Tailings dam (right)

Our operational excellence in mineral processing and closed-circuit processes has enabled us to reach a reuse efficiency of 80.16% in 2018



Municipal Wastewater is treated to be reused for mineral processing in our Fresnillo District. Wastewater from our camps is also recycled and reused

1.3 million m3 were recycled in 2018



To reduce our fresh water footprint we have secured access to an additional municipal wastewater plant from the municipality of Fresnillo

This project was recognized with the Environmental Merit Award From the Congress of the Sate of Zacatecas

#### WATER STEWARDSHIP

#### **POLLUTION PREVENTION – COLLABORATION WITH OUR STAKEHOLDERS**



#### WATER STEWARDSHIP

#### **POLLUTION PREVENTION – COLLABORATION WITH OUR STAKEHOLDERS**

Water Accounting Framework for the Minerals Industry







Adoption of an international Water Accounting Framework to make comparisons with peers and across our own operations easier.

Reporting to the CDP the performance and water related risks

Partnering with CESPEDES (Mexican Chapter of the WBCSD) and the World Environment Center (WEC) to promote roundtables in Mexico on best practices of Water Stewardship across several industries.

http://www.cespedes.org.mx/propelling-sustainable-water-management-in-a-water-stressed-future/

#### WATER STEWARDSHIP

#### WATERSHED AND COMMUNITY ENGAGEMENT

Free, Prior and Informed Consent of the Raramuri People for the construction of a water dam for the San Julian Mine



Consultation and agreements



Kids building dams





Community visiting the water dam during construction and commissioning

#### BIODIVERSITY

### **RELOCATION OF SPECIES FOR THE SAN JULIAN WATER RESERVOIR**



Capture and release of a rattlesnakes



Deer registration in the Project area by means of phototramp





Frog relocation from the San Julián Reservoir to an impact-free location

Cooperation with the Sonoran authorities for the protection of the Pronghorn at Penmont





Relocation of Sahuaros – Penmont

Plant nursery – La Ciénega



1000 ha of sustainable forest in "La Ciénega" Mine

#### **ENERGY & CARBON PERFORMANCE**

#### **DECOUPLING GHG EMISSIONS FROM ENERGY CONSUMPTION**



ENERGY INTENSITY (MWHE PER TONNE OF MINERAL PROCESSED)





GHG INTENSITY (TONNES OF CO2E PER TONNE OF MINERAL PROCESSED)



#### **ENERGY & CARBON PERFORMANCE**

### DECARBONISATION OF OUR ELECTRICITY FOOTPRINT AND TRUCK FLEET



SOURCES OF ELECTRICITY SUPPLY Other Sources (National Grid, TEP), 40.25%

Diesel to Natural Gas in the

**Truck Fleet of Penmont** 

Greenhouse gas emissions avoided in 2019 (Q3):

**245,994** tones of CO<sub>2</sub>

The equivalent of removing **55,000** automobiles

GREENHOUSE GAS EMISSIONS FROM ELECTRICITY









#### **ETHICS & INTEGRITY**

#### PERFORMANCE



Fresnillo plc is at the top of Corporate Integrity Ranking among the 500 largest companies (national and international) operating in Mexico.

This prestigious ranking is organized by the two most recognized anti-corruption NGO's, a top business magazine and funding from USAID.



(Mexicans against corruption and impunity)



(The Mexican Chapter of Transparency International)



(Expansion Magazine in alliance with CNN)



# CORPORATIVA

(Corporate Integrity 500)



# CONSOLIDATED OUTLOOK





APPROVED BY THE BOARD

SUBJECT TO ONGOING INTERNAL REVIEW (SUBJECT TO BOARD APPROVAL)

- (1) Estimated.
- (2) Total average annual production.
- (3) Total investment (of which 56% Fresnillo plc; 44% MAG Silver) as of 1st January 2018.
- (4) Increase throughput to 9000 tpd subject to mine preparation
- (5) Ciénega expansion and Orisyvo's estimated Capex and Production are not included within the Company Consolidated Outlook

#### **CONSOLIDATED OUTLOOK**

#### **EXPECTED ATTRIBUTABLE PRODUCTION PROFILE**



Thousand Tons



(1) Including Silverstream production

(2) Ciénega expansion and Orisyvo's estimated Capex and Production are not included within the Company **Consolidated Outlook** 



**Thousand Tons** 



#### **CONSOLIDATED OUTLOOK**

#### **CAPEX SPEND EXPECTATIONS**



Ciénega expansion and Orisyvo's estimated Capex and Production are not included within the Company Consolidated Outlook

#### CONCLUSION

#### FOCUS ON OPERATIONAL DELIVERY

Safety to remain at the heart of everything we do

A committed management team dedicated to unlocking the full potential of our current operations

Focus on reducing cost and capturing efficiencies

The safe, efficient delivery of growth projects to drive long term sustainable value

Continued investment in our exploration pipeline, focused on brownfield exploration to maximise probability of returns