



Technology as an enabler for a sustainable
future

TREVALI

CoM | September 2021 | Christo Horn & Sheron Kaviua

Cautionary notes



Cautionary Note Regarding Forward Looking Information

This presentation contains "forward-looking information" within the meaning of Canadian securities legislation and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, "forward-looking statements"). Forward-looking statements are based on the beliefs, expectations and opinions of management of Trevali Mining Corporation ("Trevali" or the "Company") as of the date the statements are published, and the Company assumes no obligation to update any forward-looking statement, except as required by law. Forward-looking statements relate to future events or future performance and reflect management's expectations or beliefs regarding future events including, but not limited to, statements with respect to the Company's growth strategies, expected annual savings from capital projects, anticipated effects of commodity prices on revenues, estimation of mineral reserves and mineral resources, the realization of mineral reserve estimates, the timing and amount of estimated future production, costs of production and capital expenditures, success of mining operations, environmental risks, unanticipated reclamation expenses, title disputes or claims, future anticipated property acquisitions, the content, cost, timing and results of future exploration programs and life of mine expectancies. In certain cases, forward-looking statements can be identified by the use of words such as "plans", "expects", "outlook", "guidance", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might", "will be taken", "occur" or "be achieved" or the negative of these terms or comparable terminology. By their very nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, risks related to actual results of current exploration activities; changes in project parameters as plans continue to be refined; future prices of zinc, lead, silver and other minerals and the anticipated sensitivity of our financial performance to such prices; possible variations in ore reserves, grade or recoveries; dependence on key personnel; potential conflicts of interest involving our directors and officers; labour pool constraints; labour disputes; availability of infrastructure required for the development of mining projects; delays or inability to obtain governmental and regulatory approvals for mining operations or financing or in the completion of development or construction activities; counterparty risks; increased operating and capital costs; foreign currency exchange rate fluctuations; operating in foreign jurisdictions with risk of changes to governmental regulation; compliance with governmental regulations; compliance with environmental laws and regulations; land reclamation and mine closure obligations; challenges to title or ownership interest of our mineral properties; maintaining ongoing social license to operate; impact of climatic conditions on the Company's mining operations; corruption and bribery; limitations inherent in our insurance coverage; compliance with debt covenants; competition in the mining industry; our ability to integrate new acquisitions into our operations; cybersecurity threats; litigation; and other risks of the mining industry including, without limitation, other risks and uncertainties that are more fully described in the Company's annual information form, interim and annual audited consolidated financial statements and management's discussion and analysis of those statements, all of which are filed and available for review under the Company's profile on SEDAR at www.sedar.com. Although the Company has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Trevali provides no assurance that forward-looking statements will prove to be accurate, as actual results and future events may differ from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.

Compliance with NI 43-101

Unless otherwise indicated, Trevali has prepared the technical information in this presentation ("Technical Information") based on information contained in the technical reports, news releases and MD&A's (collectively the "Disclosure Documents") available under the Company's company profile on SEDAR at www.sedar.com. Each Disclosure Document was prepared by, or under the supervision of, a qualified person (a "Qualified Person") as defined in National Instrument 43-101 Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators ("NI 43-101"). Readers are encouraged to review the full text of the Disclosure Documents which qualifies the Technical Information. Readers are advised that mineral resources that are not mineral reserves do not have demonstrated economic viability. The Disclosure Documents are each intended to be read as a whole, and sections should not be read or relied upon out of context. The Technical Information is subject to the assumptions and qualifications contained in the Disclosure Documents. The disclosure of Technical Information in this presentation was reviewed and approved by Yan Bourassa, P. Geol., Vice President, Mineral Resource Management, a Qualified Person under NI 43-101.

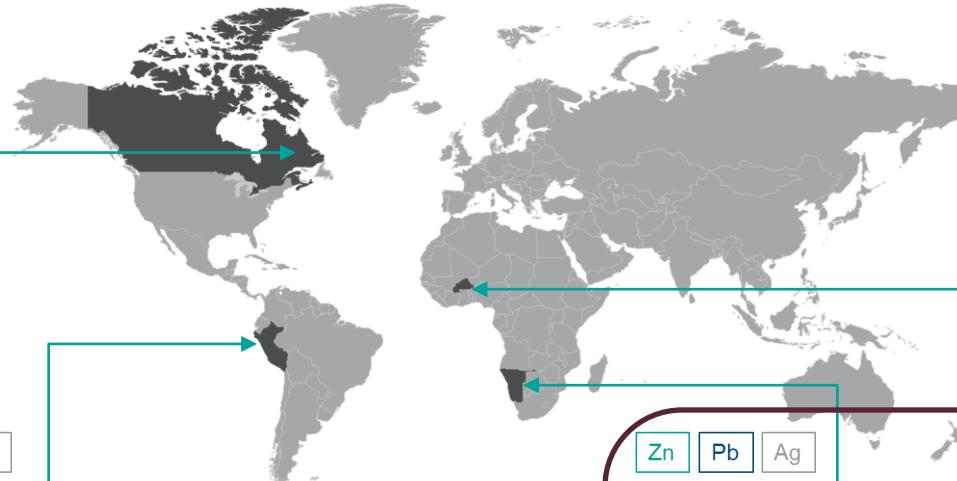
Non-IFRS Financial Performance Measures

This presentation refers to "EBITDA" (earnings before interest, taxes, depreciation and amortization), "Adjusted EBITDA", "Net Debt", "C1 Cash Cost", "All-In Sustaining Cost" and "Free Cash Flow". These financial performance measures have no standardized meaning under International Financial Reporting Standards ("IFRS") and are therefore unlikely to be comparable to similar measures presented by other issuers. Management uses these measures internally to evaluate the underlying operating performance of Trevali for the relevant reporting periods. The use of these measures enables management to assess performance trends and to evaluate the results of the underlying business of Trevali. Management understands that certain investors, and others who follow Trevali's performance, also assess performance in this way. Management believes that these measures reflect Trevali's performance and are better indications of its expected performance in future periods. This data is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. For further detail, refer to Trevali's Management's Discussion and Analysis for the three and nine months ended September 30, 2019.

Currency

All amounts are in US\$ unless otherwise indicated.

Trevali at a glance



Zn Pb Ag

Caribou, Canada

- Restarted in January 2021

Opportunities

- Studies: Satellite deposits, and metallurgical opportunities – copper, gold

Zn Pb Ag

Santander, Peru

- Restarted & producing since 2013

Opportunities

- Drilling geophysical anomaly – potential for porphyry/skarn
- Regional exploration targets

Zn Pb Ag

Rosh Pinah, Namibia

- Producing since 1969

Opportunities

- RP2.0 FS H2 2021
- Gergarub JV
- Modernization & digitization

Zn

Perko, Burkina Faso

- Producing since 2013

Opportunities

- T3 discovery, drilling restarted Q4 2020
- Regional exploration targets

2021 Consolidated Zinc Production Guidance¹

330-360 million

Payable lbs Zinc

45-50 million

Payable lbs Lead

0.9-1.0 million

Payable ozs Silver

\$0.80-0.84

C1 Cash Cost² per pound of Zinc

\$0.90-0.97

AISC² per pound of Zinc

(1) Production guidance constitutes forward-looking information. See "Cautionary Note Regarding Forward-Looking Statements".

(2) This is a Non-IFRS Financial Performance Measure; See cautionary note regarding Non-IFRS Financial Performance Measures.

Rosh Pinah Mine - Namibia

2.5 BILLION LBS CONTAINED ZN (IN MEASURED & INDICATED RESOURCES – AS AT JUNE 30, 2020)



2020 Production (100% basis)

- Zn** **86 million** payable lbs Zinc
- Pb** **18 million** payable lbs Lead
- Ag** **225,000** payable ozs Silver

Highlights

- Record annual production in 2019 and 2020
- RP2.0 Expansion Project PFS delivered in August 2020; FS expected in H2 2021
- Near mine exploration targets



Mineral Reserves (as at June 30, 2020)

Category	Mt	Zn (%)	Pb (%)	Ag (g/t)
Proven Reserves	4.24	7.32	1.99	23.7
Probable Reserves	6.99	5.62	0.93	16.2
Proven and Probable Reserves	11.23	6.26	1.33	19.0

Mineral Resources (as at June 30, 2020)

Category	Mt	Zn (%)	Pb (%)	Ag (g/t)
Measured	8.13	7.38	2.11	25.7
Indicated	7.97	7.08	1.22	19.8
Measured + Indicated	16.10	7.23	1.67	22.8
Inferred	3.43	6.71	1.34	23.2

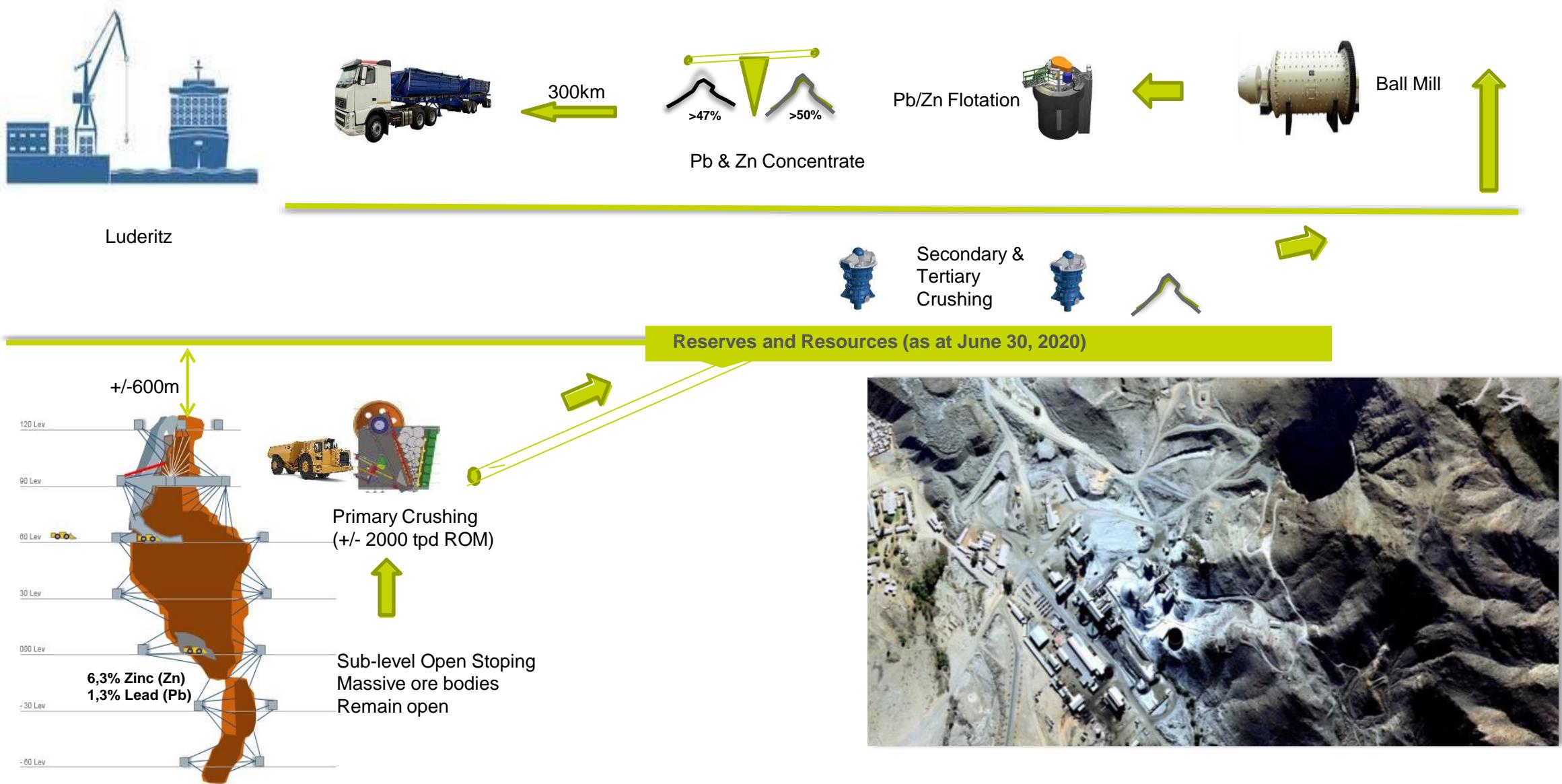
See "Compliance with NI 43-101" for additional information on the mineral reserves and mineral resources in above table. Proven & Probable Reserves included in Measured & Indicated Resources. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

(1) As of 31/2020

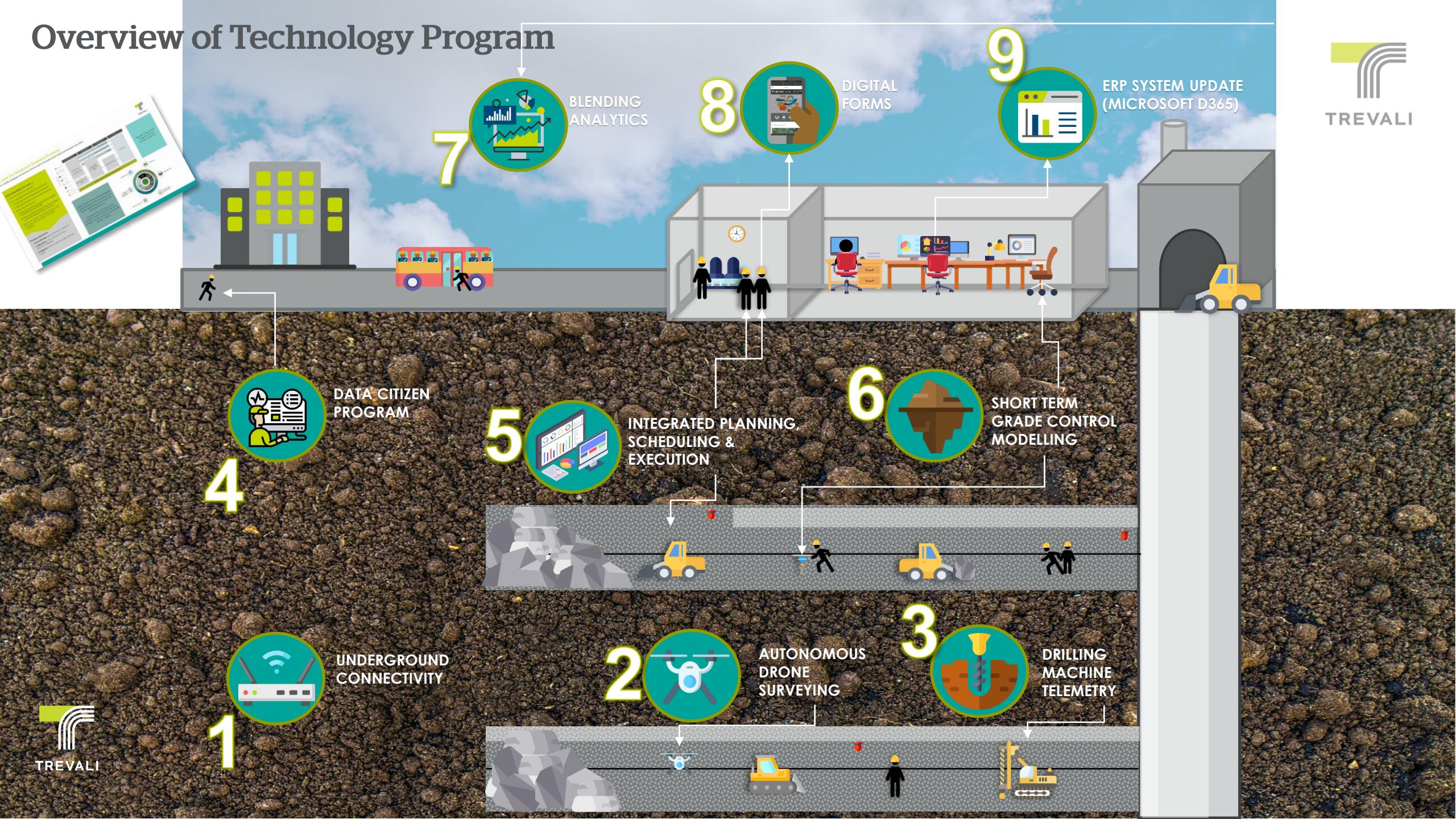
(2) Production guidance constitutes forward-looking information. See "Cautionary note regarding Non-IFRS Financial Performance Measures".

(3) C1 Cash Cost and AISC per pound of zinc are non-IFRS measures. See "Non-IFRS Measures"

RPZC value chain



Overview of Technology Program



A closer look at...

Business Systems Projects



ERP (D365)

Project leader

Implemented a new ERP system (Microsoft D365) across operations.

- D365 is a modern, cloud-based system with **improved user experience** and **cyber security**.
- A centralized system allows us to have **standardized processes** across all sites and a **global database** of financial information with a **lower cost to the operation** than a distributed systems landscape.



FINANCIAL PLANNING & ANALYSIS

Project leader

Deploying a centralized application and leveraging data & analytics for financial planning and analysis.

- A standard process across sites means **more efficient budgeting and forecasting**, while assist in identifying areas of high spend.

OneStream was identified as the software solution of choice, and Black Diamond Advisory as specialist implementation partner



GOVERNANCE, RISK & COMPLIANCE (GRC)

Project leader:

Implemented xGRC system to manage Risk and Compliance

- The objective is to **improve user experience** and **optimise integration** and associated cost in the overall system landscape.

Strategix has been selected for further investigation to establish if this solution could unlock better efficiencies and performance.



xGRC

It's important for us to upgrade our business systems, so that we can make better use of the data we'll be gathering through other technologies, so that we can standardize processes across operations, and to save our employees time

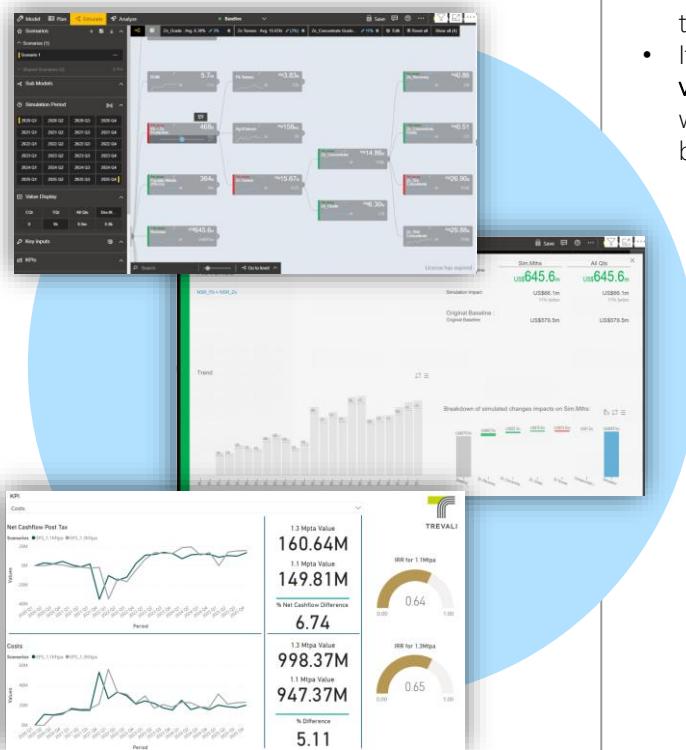
A closer look at...

Data Analytics



Project leader

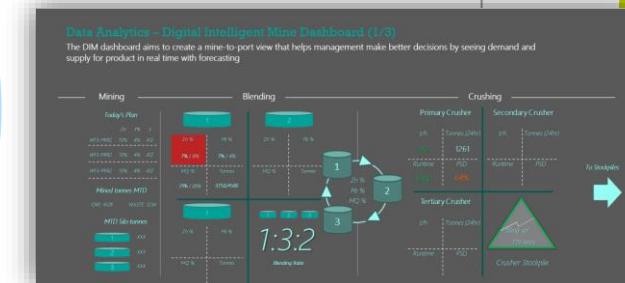
By mapping the inputs and outputs of various elements in a process, it enables engineers to run various scenarios and to support holistic decision-making.



Project leader:

This will allow us to fully understand the demand for our product and our shipping capacity.

- This will enable us to produce optimally for tonnage
- It will allow us to have a view of the full value-chain of mining operations (starting with Rosh Pinah) to assist management in better decision making



Project leader

The objective of this project is to use analytics to get a consistent, stable mix of feed to the plant from the 3 silos.

The project provides a dashboard to recommend optimal blending to the Rosh Pinah operational team

Lixar has been identified as a solution partner.

Having data analytics capabilities will enable us to make better decisions, because we'll have better and more accurate information. It will also help us to learn about our own organisation, because we'll have better records of our performance and the historic decisions we made. We can test different strategies and will be empowered to continuously improved.

A closer look at...

DTP



UNDERGROUND CONNECTIVITY

Project leader

Underground connectivity will deliver a core network infrastructure to provide coverage across the entire mining area

- This will **make other solutions possible** like underground tagging and tracking and semi-autonomous production
- Phase 1 completed **connectivity** in the ug Primary Crusher area

Dwyka Mining Services was selected as the preferred vendor during RFP process.



DRILLING TELEMETRY

Project leader

Increased drilling accuracy and spatial compliance has a direct inverse correlation to overbreak.

- Better drilling practice reduces overbreak which **reduces dilution**
- Telemetry technology helps operators **drill more accurately** with **real-time feedback** on progress.
- It also gathers **as-drilled-data** that blast engineers use to design blast plans.

Epiroc was selected as the preferred vendor through RFP process



DRONE SURVEYING

Project leader

Drones can safely access and scan areas that humans cannot enter to obtain valuable information about the conditions of the area.

- This will lead to increased surveying scope and accuracy, increased frequency of surveying, and enabling quicker turnaround times between surveying efforts and useable information.

The Emesent solution, deployed by Dwyka Mining Services, was selected as the preferred vendor from a shortlist of three potential vendors.



PROCESS CONTROL SYSTEM UPGRADE

Project leader

The automation system is the backbone of the plant operation. The current system requires an upgrade to simplify and update the control infrastructure and ultimately optimize plant performance.

- The new system will enable **data driven planning**, and will make **data integration** to the plant easier, allowing the ability to do **analytics** and **gather key operational and business insights**

The DTP portfolio of projects will enable us to gather better data underground and increase the efficiency of our underground work.

A closer look at...

Digital Forms

Short-term grade modelling

MineRP



DIGITAL FORMS

Project leader

This solution will enable us to replace the 80+ paper-based forms in Rosh Pinah with seamless electronic data capturing.

- This will **eliminate duplication** of efforts and **human errors** associated with paper-based data gathering and handling
- Data will be **more effectively stored** and archived, allowing for **easy extraction** in the future
- It will also allow **automated reporting** and workflows, and will make improve efficiencies.



SHORT-TERM GRADE MODELLING

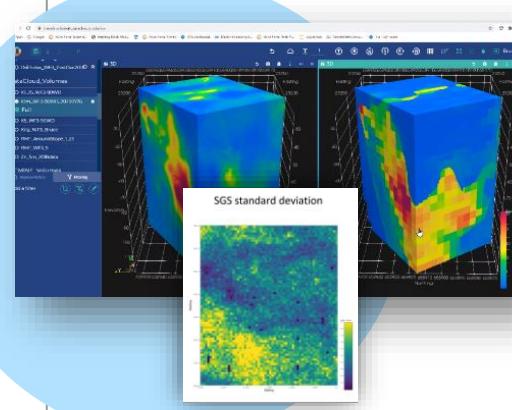
Project leader

By deploying Datacloud's technology, we will be able to generate an on-demand, high resolution (1x1meter grid) grade model

- This will enable us to **better design & plan for extracting** the target material and controlling ore quality.

Input data are provided through Trevali's data lake and resulting models are transferred through the data lake to other applications.

Following a successful POC in the 3rd quarter of 2020, the modelling process is being automated, stress tested and enhanced.



MINERP

Project leader

This piece of technology will enable us to integrate various sources of spatial data (e.g. mine plan, geology, survey) into MineRP for visualization, analysis and reporting

- This will give us the ability to **view, calculate and analyze various KPIs** (e.g. short term dilution, drilling compliance), it will allow **data-driven troubleshooting, decision-making and continuous improvement**
- It will also allow us to **improve the scheduling** of mining activities through a master business schedule, and to **align short and long term plans**



How do the technology projects enable synergies?

EACH PROJECT CONTRIBUTES TO AN OUTCOME GREATER THAN THE SUM OF ITS PARTS – BY IMPROVING PROCESSES AND GATHERING MORE INFORMATION, WE CAN MAKE BETTER DECISIONS AND COLLABORATE BETTER



Better information and more efficient processes



Underground Connectivity
Enables us to operate equipment from above the ground, and gather a lot of data regarding our operating conditions, our routines and our ore body



Short-term grade modelling
Drilling telemetry
Drone surveying
Digital forms
Enables more efficient processes and feeds more and better information to our planning and scheduling functions

Better decision-making and planning



MineRP
Digital intelligent mine Blending analytics
Value driver modelling
These initiatives will help us make sense of all the new data we've collected with the help of our new technologies and assist us to best analyse and interpret this. By doing that, we can plan our next steps with a lot more accuracy and guidance and can therefore operate more effectively overall

Better collaboration and access to information



D365 xGRC
Financial planning and analysis

The business systems projects will enable better integration between the improved information, improved decision-making and the new routines, tasks and processes that we'll implement because of it. It will also help people collaborate better, access information easier, and plan better.

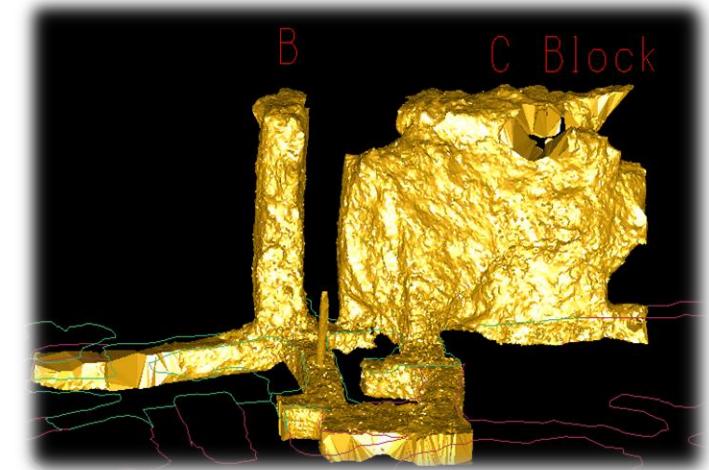
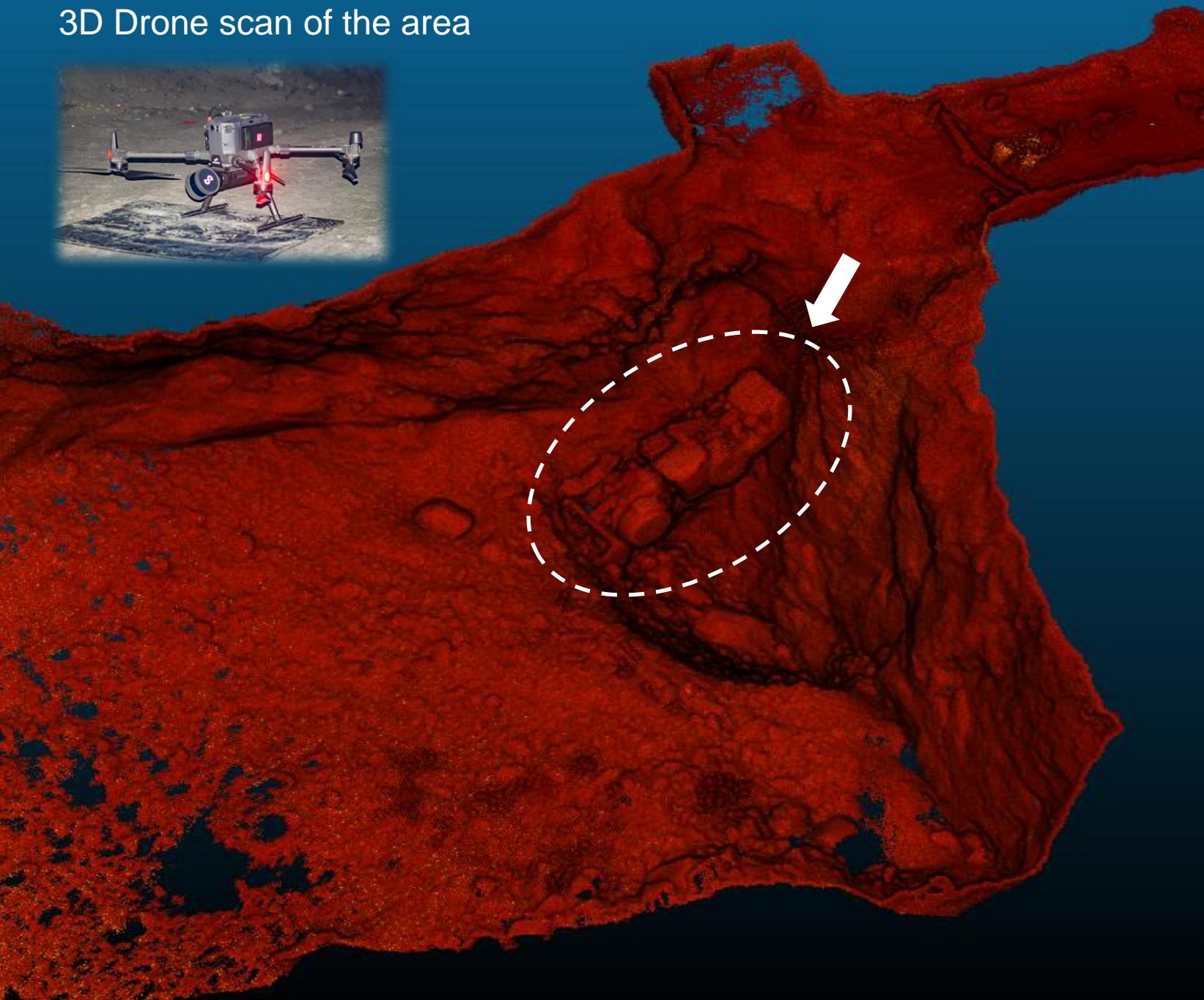


TREVALI

Live SHOWCASE



3D Drone scan of the area



RPZC Plant - Power BI

app.powerbi.com/groups/me/apps/7e0796de-a5ad-4878-b56e-0808bfa6fafafa/reports/794c9652-5e8c-430c-ba6b-0c8359f32ea9/ReportSection9318e371a988dc2dc807?ctid=239d993c-3c12-4070-b892-0a3...

Power BI Trevali Insights

Plant | Data updated 8/27/21

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DAILY REPORT
Monday, August 23, 2021

Saturday, August 21, 2021 Sunday, August 22, 2021 Monday, August 23, 2021
Tuesday, August 24, 2021 Wednesday, August 25, 2021 Thursday, August 26, 2021

Trevali Insights

Overview

RPZC

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Health & Safety

Finance

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Perko

Santander

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Crushing

Plan: 2005, Runtime: 524, Actual: 2528

Milling

Plan: 2041, t/h: 5, Runtime: 1, Actual: 2048

Primary (t/h)

129.28

Avg Head Grades

Pb %: 2.52, Zn %: 7.48, Fe %: 3.94, Cu %: 0.19

Milled (t): 2048, Run %: 100.0%, PSD: (Blank)

BallMill t/h (Dry Material)

85.25

Raw Mill Throughputs (t/h)

Shift A t/h: 89.49, Shift B t/h: 89.97, Shift C t/h: 90.31, Shift D t/h: 86.02

Daily Avg. t/h: 88.96

Zn Metal Contained

Plan: 122, Runtime: 0, Feed Grade: 11, TP: 0, Recovery: -2, Actual: 130

Zn Recovery %: 85.22!, Goal: 86.80 (-1.82%)

Zn % in Concentrate: 47.87!, Goal: 50.67 (-5.52%)

Pb Metal Contained

Plan: 30, Runtime: 0, Feed Grade: 5, TP: 1, Recovery: 36, Actual: 36.3

Pb Recovery %: 68.90!, Goal: 68.30 (+0.87%)

Pb % in Concentrate: 51.10!, Goal: 52.19 (-2.09%)

Daily Courier Samples

Zn %: 7.37, Pb %: 2.24, Ag g/t: 3.29, Fe %: 3.94, Cu %: 0.19, Scatter %: 69.60

Zn Head Grade Trend

Actual: 8.00, Forecast: 6.86

15°C Light rain

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PLANT OVERVIEW (Month-to-Date)

TREVALI ROSH PINAH

MTD Avg. Ag Head Grade: 22.43

MTD Avg. Zn Head Grade: 7.30

MTD Pb Metal: 755

Gain/Loss: 38.34

Zn Metal Contained: 793.5

Zn Dispatches (MTD vs. Forecast): 7,160.15 (Goal: 7,407.48 (-3.34%))

Pb Dispatches (MTD vs. Forecast): 1.23K (Goal: 790.06 (+56.09%))

Actual Zn Metal: 129

Zn Metal Plan: 122

Production Comments:

6t below metal target. Recovery and concentrate grade below target for the day. Small changes made on collector, frother and air during the day to decrease high tail from previous day. Saw improvements from A to D shift on recovery and concentrate grade.

Crushing (DMT):

Milling (DMT):

Avg Mill Throughput (t/h): 82.91

Mill Availability (%): 98.8%

Live Monitoring link: Grafana

RPZC Mining - Power BI

app.powerbi.com/groups/me/apps/7e0796de-a5ad-4878-b56e-0808bfa6fafafa/reports/d58dd2a0-9c28-4084-be3c-2b53496b633a/ReportSection0823a24a2206b9543d80?ctid=239d993c-3c12-4070-b892-0a...

Power BI Trevali Insights

Mining | Data updated 8/27/21

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MINING OVERVIEW

Thursday, August 26, 2021

2.33 MTD AVG. Pb Feed Grade

7.30 MTD AVG. Zn Feed Grade

0.70 MTD AVG. Ag Feed Grade

MTD Dev. Drill Availability (%) 77.46% Goal: 75.00 (+3.28%)

Development Advance (m) Actual vs Forecast (Aug 01 to Aug 22)

MTD Development Advance (m) 240.80

MTD Production (DMT) 64,594.53

MTD Prod. Drill Availability (%) 73.73% Goal: 75.00 (-1.69%)

Production Drilling (m) Actual vs Forecast (Aug 01 to Aug 22)

MTD Production Drilling (m) 4,508.91

ROM Stockpile 22,855.88

LHD/Scoop Availability (%) 87.11% Goal: 85.00 (+2.48%)

LHD/Scoop Availability Trend Actual vs Forecast (Aug 01 to Aug 22)

Truck Availability (%) 86.92% Goal: 85.00 (+2.26%)

Truck Availability Trend Actual vs Forecast (Aug 01 to Aug 22)

Notifications Hub

MetricsName	MTD VAR	Daily VAR
Development Advance	↓	!
Development Drill Avail	↑	!
Diamond Drilling	↑	!
LHD / Scoop Avail	↑	!
Production Drill Avail	↓	!
Production Drilling	↑	!
ROM Stockpile	↑	!
Stoping Ore	↑	!
Total Production	↑	!
Truck Avail	↑	!

15°C Mostly sunny ENG 3:17 PM INTL 8/27/2021 24

RPZC Health & Safety - Power BI x +

app.powerbi.com/groups/me/apps/7e0796de-a5ad-4878-b56e-0808bfa6fafafa/reports/c4b12fbf-3c2d-4f60-8700-c45d17be0d2b/ReportSection7876ae5b00a1a32707e0?ctid=239d993c-3c12-4070-b892-0a3...

Power BI Trevali Insights Health & Safety Search ...

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FATAL RISKS

TREVALI ROSH PINAH

SiteDocs Overview and Analysis

All Fatal Risks: 88.29%

Fatal Risk Opportunities Identified: 35

Surface Mobile Equipment: 90.00%

Hazardous Material: 66.67%

Isolation and Permit: 95.65%

COVID-19: 94.64%

U/G Mobile Equipment: 91.67%

U/G Ground Stability: 72.73%

Lifting Operations: 84.09%

Light Vehicles: 95.24%

Working at Heights: 96.97%

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Type here to search

15°C Mostly sunny ENG 3:18 PM INTL 8/27/2021 24

Trevali is investing heavily into making Rosh Pinah a world class mine



Summary

RESPONSIBLE



Continue to build capacity and positively impact the Rosh Pinah community

OPTIMISATION



Deliver the identified opportunities through our newly installed business improvement platforms

STRONG OPERATIONAL PERFORMANCE



Delivered record production and will continue to improve through our focused business improvement programs

COST MANAGEMENT



Deliver projects on time in order to move to below 90c/lb AISC

EXPLORATION



Continue to develop our understanding of the near-mine deposits in order to extend the LOM to support RP2.0's capacity

PEOPLE



Work with and leverage the ideas of our people as we keep improving to become a 1st quartile producer