Stop and Zinc

FGCU

THE HERMOSA PROJECT



Presented by Stop and Zinc

2026 Collegiate Ethics Case Competition

Jerome, Arizona: Then and Now



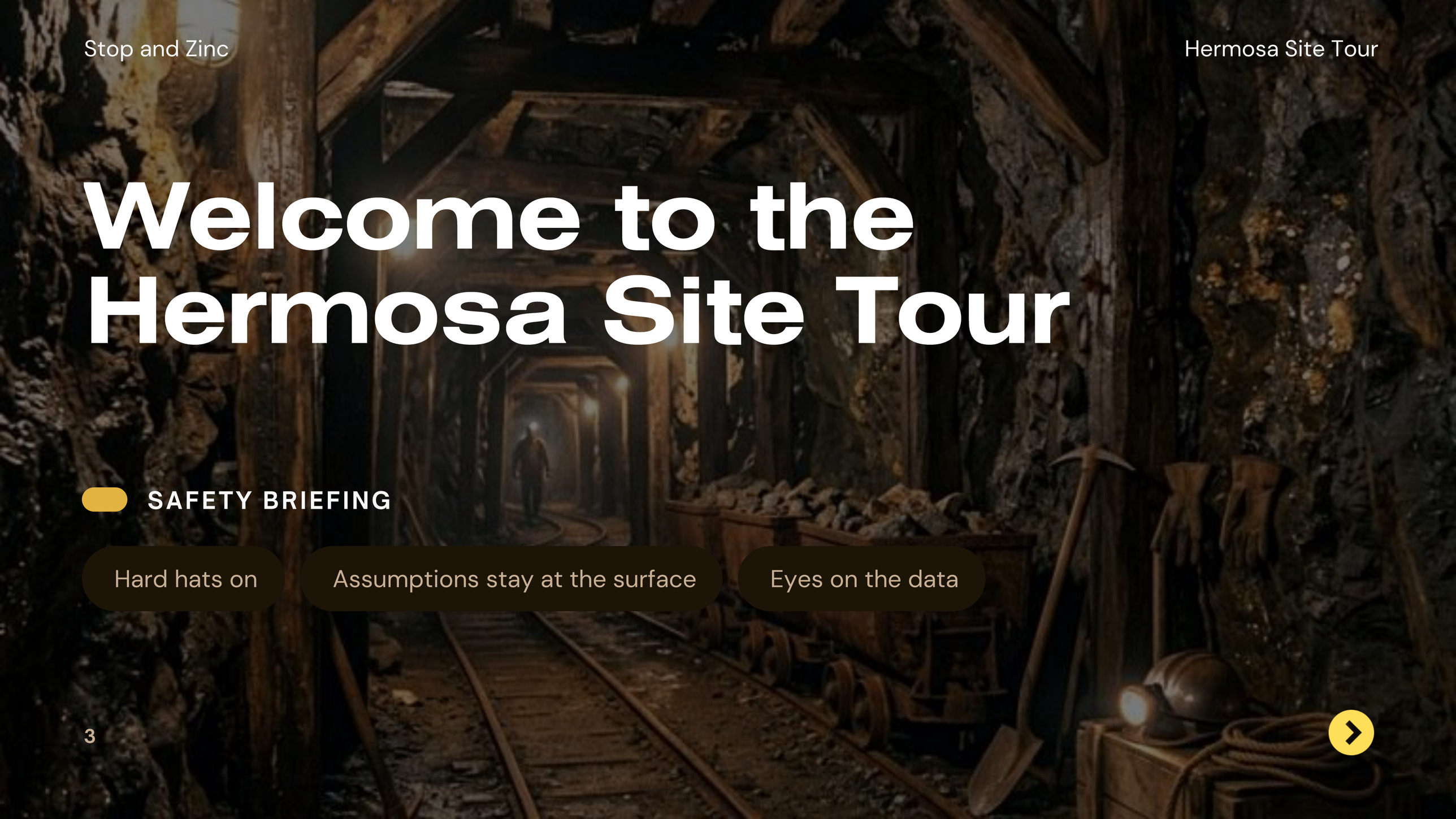
1920s

More than 10,000 residents



1953

Mine closes; fewer than 100 stay



Welcome to the Hermosa Site Tour

SAFETY BRIEFING

- Hard hats on
- Assumptions stay at the surface
- Eyes on the data

The Hermosa Project

Ethics Costs Less Than Delay

Stop and Zinc

Florida Gulf Coast University

2026 Collegiate Ethics Case Competition · Center for Leadership Ethics, University of Arizona



YOUR TOUR GUIDES

Meet the Team



Dario Benes

Finance ’27

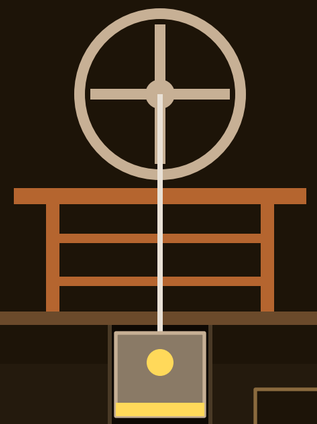


Nicholas Colbert

Management ’27

Tour Route

- Six levels, surface to surface



−120 M	01 PROBLEM
−240 M	02 LEGAL
−360 M	03 SOLUTIONS
−480 M	04 ETHICS
−600 M	05 FINANCIALS
−720 M	06 TAKEAWAYS

OUR CLIENT

South32’s Board of Directors



01

WHO WE ADVISE

The board and Hermosa leadership

02

THE DECISION

Which promises go in writing before first production in 2028

03

OUR RECOMMENDATION

Continue Hermosa with four binding commitments

US$203M

total cost

Source: South32 FY26 in review; team model v2

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

What Is Hermosa?



Site plan (South32 rendering)



Dry stack tailings

TAYLOR DEPOSIT

Zn	Pb	Ag
Zinc	Lead	Silver

CLARK DEPOSIT

Mn Manganese — Battery-grade

Where	Patagonia Mountains, Santa Cruz County
Status	~50% built; first ore 2028
First	Mining project under FAST-41

Source: South32, About Hermosa; FY26 in review; FAST-41 release (May 2023)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

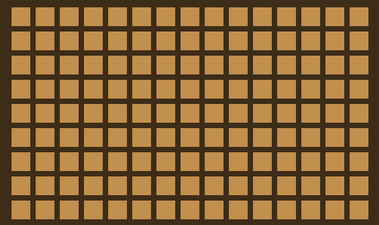
06 Takeaways

What South32 Has Already Done



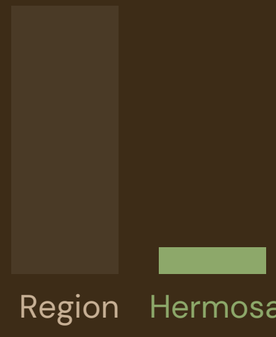
US$40M

Historic mine waste cleaned up before construction



135+

Commitments, now federally enforceable



~90%

Less water than regional mines (projection)



3

EPA-approved air monitors, public dashboard



80%

Local workforce hiring goal

Source: south32hermosa.com (Why Hermosa, FAQ, Final ROD release)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

Current Constraints

01 Trust

South32 measures

South32 reports

South32 checks

Neighbors are asked to trust self-reported water data

02 Litigation

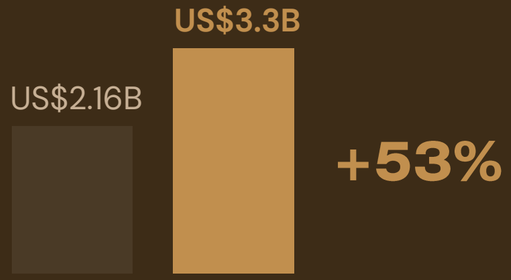
SEPT

29

2026

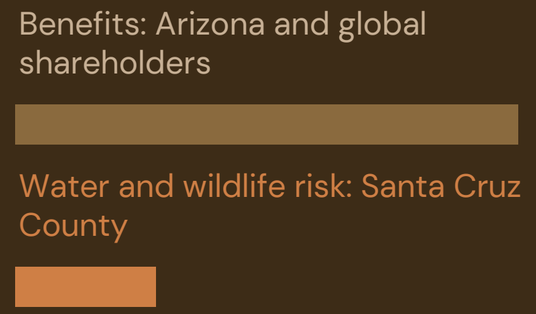
CBD and PARA sue the federal agencies

03 Cost and schedule



Budget up 53%; first production slipped about a year

04 Who carries the risk



Benefits spread wide; the risk stays local

Source: CBD press release (29 Sep 2026); South32 FY26 in review; FID release (Feb 2024)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

The Scale of the Stakes

MINING ECONOMY

5
critical minerals

US$3.3B
project, half built

3,465
Arizona jobs in operations



One watershed

NATURE ECONOMY

US$53.8M
county GDP

~1,200
county jobs

12 Tribal Nations consulted

52,000+ acres of national forest in the lawsuit

Source: EY 2024 and UA 2022 (case); South32 Final ROD release; CBD press release (plaintiffs' acreage)

SURFACE

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



Federal Permitting: Approved, and Fast

2022

State water and air permits

May 2023

First mining project under FAST-41

Mar 2026

Final EIS and draft decision

Jul 2026

Final Record of Decision

Sep 2026

Final Mine Plan of Operations

FAST-41 DOES

Coordinate agencies on one public timetable

FAST-41 DOES NOT

Lower any environmental standard

Source: Case; South32 FAST-41 release (May 2023); south32hermosa.com releases (Draft ROD, Final ROD, MPO)

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

THE LAWSUIT · FILED SEPT 29, 2026

CBD and PARA v. Forest Service


Jaguar


Ocelot


Spotted owl

ESA Harm to protected species

NEPA Groundwater review was rushed

BEFORE PAUSING WORK, A COURT WEIGHS

Likelihood of success

Irreparable harm
Independent water data answers this

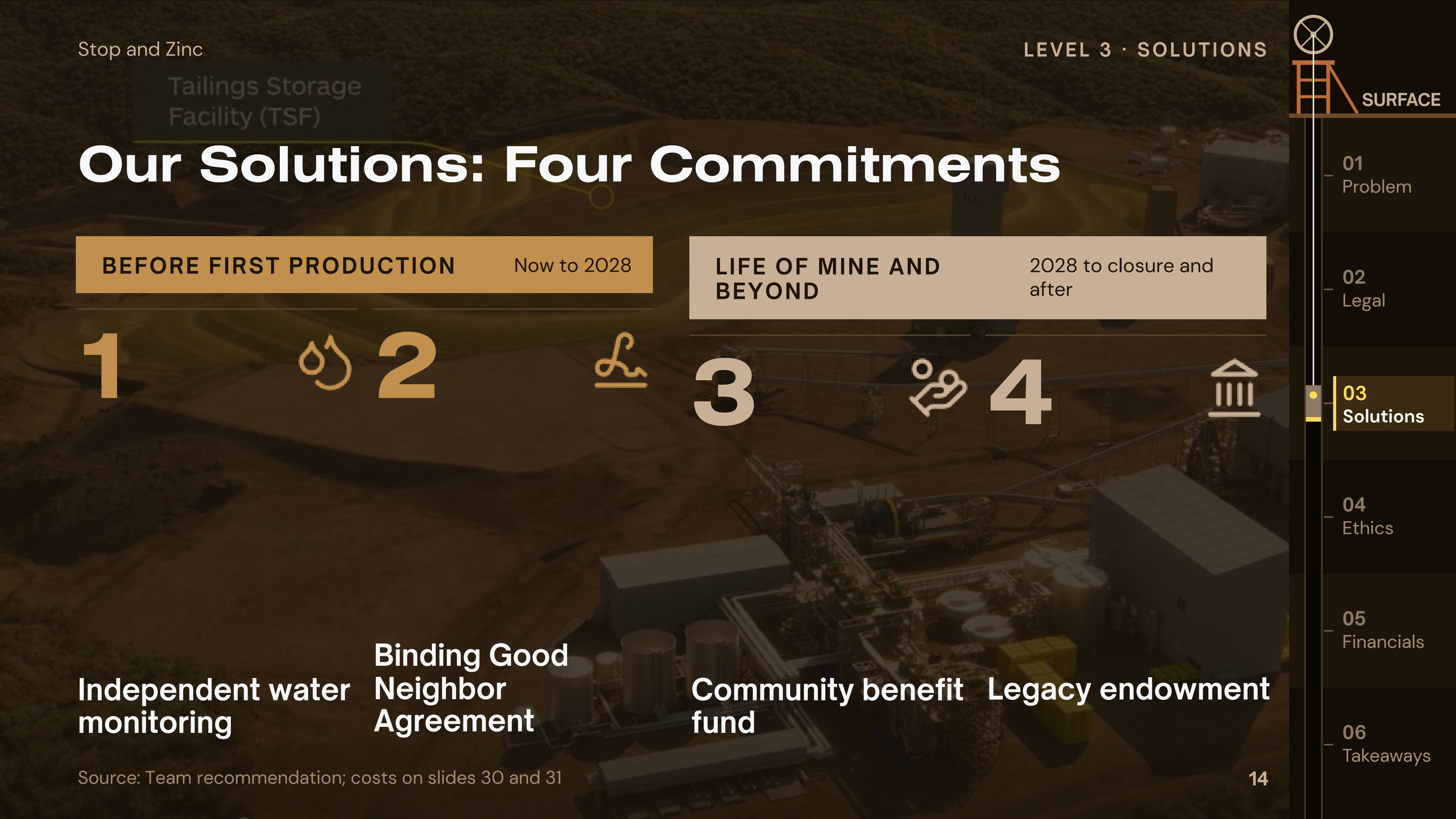
Balance of equities

Public interest

Precedent: Rosemont's approval vacated in this forest, 2019

Source: CBD press release (29 Sep 2026); Winter v. NRDC, 555 U.S. 7 (2008); E&E News (Rosemont)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



Our Solutions: Four Commitments

BEFORE FIRST PRODUCTION — Now to 2028

LIFE OF MINE AND BEYOND — 2028 to closure and after

1 Independent water monitoring

2 Binding Good Neighbor Agreement

3 Community benefit fund

4 Legacy endowment

Source: Team recommendation; costs on slides 30 and 31

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

COMMITMENT 1

Independent Water Monitoring

TODAY · ANTIMONY IN TREATED DISCHARGE, 2025 · SELF-REPORTED

ppb



The number looks good. The problem is who reports it.

1 · EVERY QUARTER

Sample

Groundwater, mine discharge, Harshaw Creek, neighbor wells

2 · COMMUNITY PICKS

Independent lab

South32 pays but doesn't control it

3 · PUBLIC

Plain-language results

On South32's existing air dashboard

4 · IF A LIMIT IS CROSSED

Stop, fix, safe water

Right away

Source: south32hermosa.com FAQ (antimony limit and 2025 average); Ekati IEMA (monitoringagency.net)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

COMMITMENT 2

A Binding Good Neighbor Agreement

WHO SIGNS

- Town of Patagonia
- Santa Cruz County
- 12 consulted Tribes
- Nearby well owners
- PARA, invited

WHAT IT LOCKS IN

Any damaged well replaced

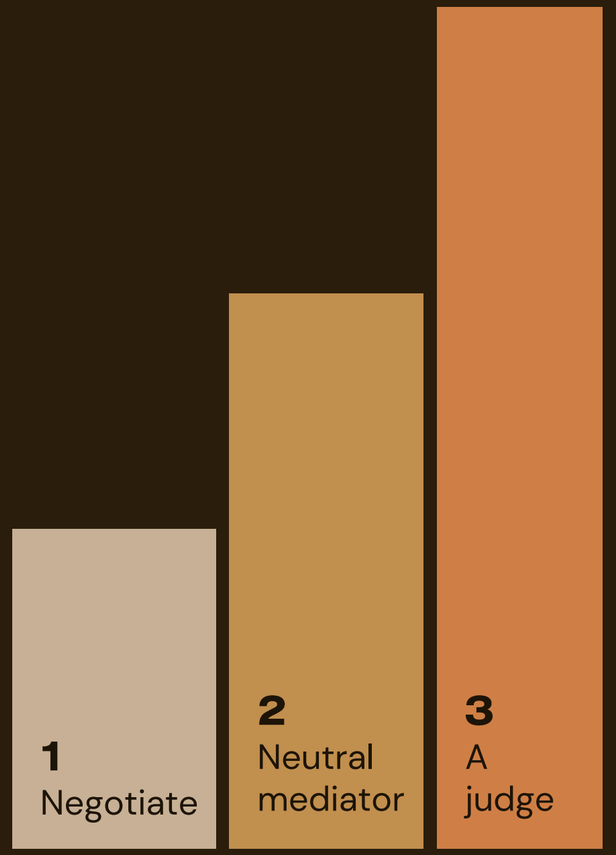
Local hiring, in writing

Oversight committee, equal seats



Trucks stay out of town

HOW IT'S ENFORCED



Source: WRI, Stillwater GNA snapshot; South32 Final ROD release (12 Tribes, access road)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

COMMITMENT 3

A Community Benefit Fund

HERMOSA EBITDA, A TYPICAL YEAR · ~US$625M

2% TO THE FUND



US$12.5M a year, from first production, split two ways

2/3 · ~US$8.3M
Spent locally each year

1/3 · ~US$4.2M
Saved in the endowment

- Community-run; South32 holds one seat
- Rises and falls with mine earnings
- Separate from water protections

Source: Team model v2 (2% × steady-state EBITDA ~US$625M)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

COMMITMENT 4

A Legacy Endowment

SAVE

US$4.2M

a year: one third of the fund

GROW

US$260M

by the time Hermosa closes

PAY

US$10M

a year, forever, after closure

Jerome had no fund when its mine closed in 1953

Source: Team model v2 (4% real return); Norway Ministry of Finance, Meld. St. 7 (2025 to 2026)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



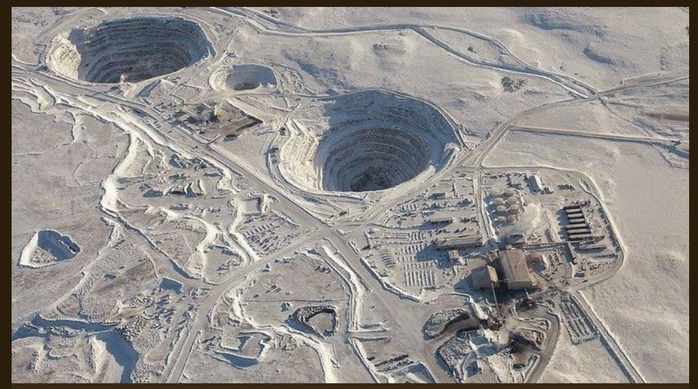
Proven in Mining



Stillwater, Montana · 2000

Binding Good Neighbor Agreement; 24+ years, no environmental lawsuit

Model for Commitments 1 + 2



Ekati, Canada · 1997

Independent monitoring agency; Indigenous groups appoint its directors

Model for Commitment 1



Red Dog, Alaska

Pays NANA 40% of net proceeds: US$327M in 2024

Model for Commitment 3

Source: WRI, Stillwater GNA snapshot; IEMA (monitoringagency.net); US SIF Teck/NANA case study

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



Proven in Resource Wealth



Alaska Permanent Fund · 1976

US$86B

Voters required 25% of mineral royalties be saved

Model for Commitment 4

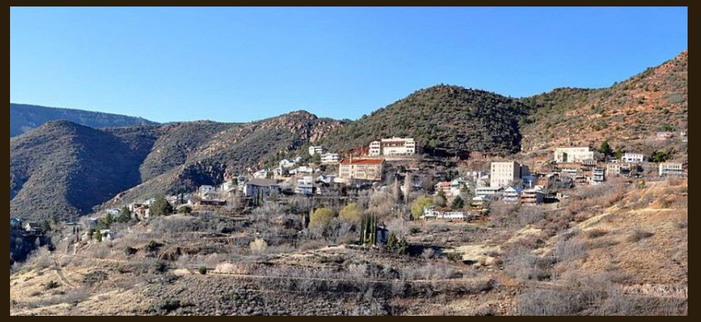


Norway's Oil Fund

~3%

Spends only the expected real return

Model for our spending rule



Jerome, Arizona · 1953

No fund

10,000+ residents in the 1920s; fewer than 100 after the mine closed

What Patagonia must avoid

Source: Dermot Cole, The Permanent Fund at 50 (Mar 2026); Norway Ministry of Finance, Meld. St. 7; Jerome, Arizona (Wikipedia)



Timeline of Implementation

COMMITMENTS 1 + 2 · BEFORE FIRST ORE

COMMITMENTS 3 + 4 · FUND AND ENDOWMENT

Q4 2026

Sign Good Neighbor term sheet; panel picks the lab

H1 2027

Independent baseline sampling of wells and Harshaw Creek

2028

First production; fund and endowment start

FY31

Full capacity; fund at ~US$12.5M a year

~FY59

Mine closes; endowment pays ~US$10M a year

Source: South32 FY26 in review; south32hermosa.com MPO release; team plan

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

ETHICAL FRAMEWORK 1

Kant, Duty-Based Ethics



KANT'S PRINCIPLE OF HUMANITY

Treat people as ends in themselves, never merely as a means.

Immanuel Kant, Groundwork of the Metaphysics of Morals (1785)

SOUTH32'S PUBLIC PROMISES

> "...at least 80 per cent of our workforce living and working in Santa Cruz County."
>
> **South32, 2024**

> "...projected to use approximately 90% less water than other mines in the region."
>
> **South32 Hermosa, 2026**

Source: Kant (1785); south32.net (Oct 2024); south32hermosa.com Final ROD release (Jul 2026)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

Kant Applied to Hermosa

KANTIAN TEST	TODAY	OUR COMMITMENT	
Universal law	Self-reported water data	1	Independent monitoring
Keeping promises	Targets and plans, not contracts	2	Binding Good Neighbor Agreement
Humanity	45% of revenue to shareholders; the county carries the risk	3+4	Benefit fund and endowment
Kingdom of ends	Consulted, but no vote	1+2	Community picks the lab; equal committee seats

Source: Team analysis; 45% from team model v2

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

ETHICAL FRAMEWORK 2

Stakeholder Theory

Weigh the legitimate interests of everyone a business affects, not only its owners.

R. Edward Freeman, Strategic Management: A Stakeholder Approach (1984)



Source: Freeman (1984)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

STAKEHOLDERS · 1 OF 3

Community and Tribes



Community

- Water guarantee and independent data
- Fund invests in the nature economy (~1,200 jobs)
- Endowment pays after closure

Tribes

- Seats on the lab panel, committee and fund board
- Consultation becomes partnership
- Each Tribe decides how it takes part

Source: UA 2022 (case); South32 Final ROD release (12 Tribes)

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

STAKEHOLDERS · 2 OF 3

Employees and Shareholders



Employees

Local hiring goes into writing

Builds on Pima Community College training

~900 direct jobs

Shareholders

6.5%

of project value: the plan's cost

US$26M

per month of delay avoided

Source: south32hermosa.com (jobs, training releases, Aug 2026); team model v2

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

STAKEHOLDERS · 3 OF 3

Regulators and Opponents



Regulators

Independent data makes 135+ federal commitments easier to verify

A stronger record if the decision is challenged

Opponents

Data they trust and a real seat

Right to sue kept; no gag clause

Stillwater: 24 years, no environmental lawsuit

Source: South32 FAST-41 and Final ROD releases; WRI, Stillwater GNA snapshot

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways



The Mine Still Makes Money



+53%

Build cost: US$2.16B to US$3.3B

US$3.1B

South32's valuation (post-tax NPV, 7% real)

19%

Return on the money left to spend (IRR)

~US$650M

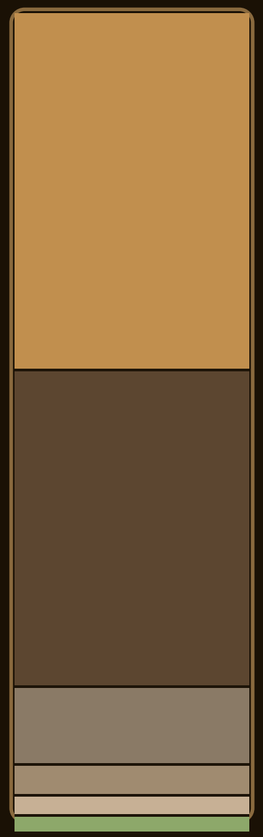
EBITDA a year at full capacity

Counting all spend since 2024, our model puts the real return near 10%

Source: South32 FID release (Feb 2024); FY26 in review; Hermosa Project Update (Apr 2026); team model v2

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

Who Captures the Value



Core sample

45% South32 shareholders

40% Operating costs

9% Income tax

3% Sustaining capex

2.2% Private royalties

~1% Our community fund

REVENUE ~US$1,079M

45%
to shareholders, mostly outside Arizona

~1%
our ask for the community

Source: Team model v2 (FY31 to FY59 average); South32 FID release (private royalty ~2.2%)

SURFACE
01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways

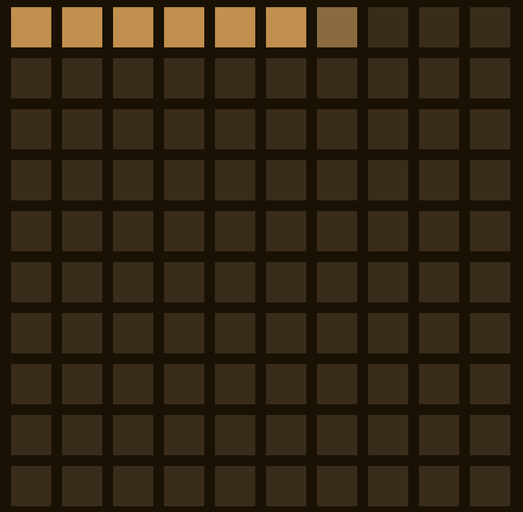
What Our Plan Costs

PRESENT VALUE, 7% REAL

US$50M	**US$153M**
1 + 2: monitoring and well reserve, upfront	3 + 4: fund at 2% of EBITDA, ~US$12.5M a year × 32 years

Total **US$203M**

SHARE OF SOUTH32'S US$3.1B VALUATION



6.5% of its own valuation

and ~2% of a year's EBITDA

Source: Team model v2; South32 FY26 results release

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

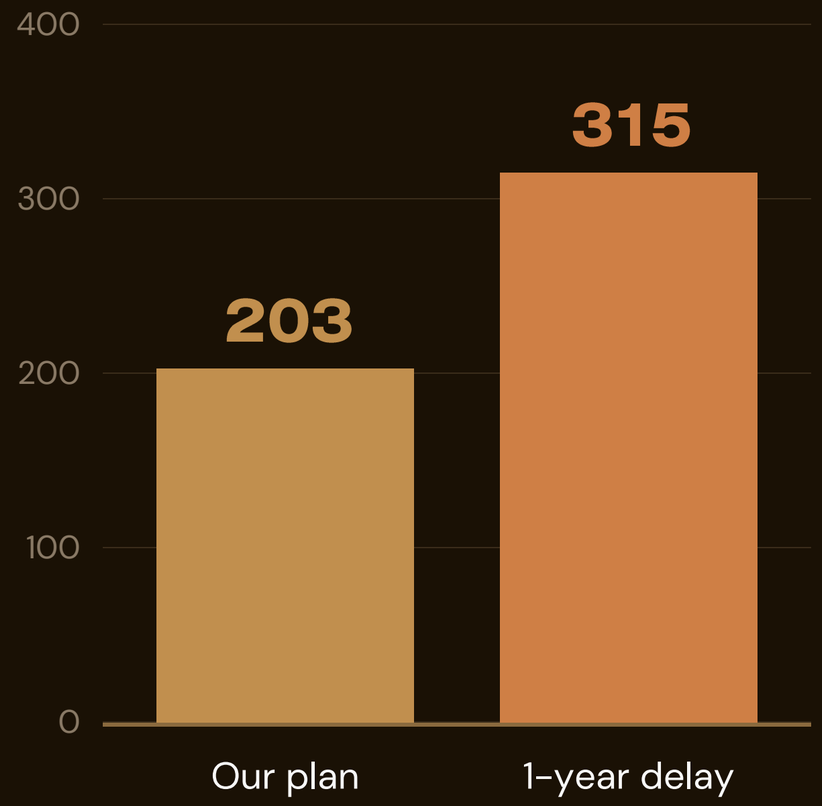
05 Financials

06 Takeaways



Ethics Costs Less Than Delay

PRESENT VALUE, US$M



MONTHS OF DELAY AVOIDED



~8 months: the plan pays for itself

~US$26M lost per month of delay

First production already slipped ~12 months

Source: Team model v2 (delay = PV of operating cash flows × (1 − 1/1.07)); South32 FY26 in review

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



South32 Can Afford It



Affordability isn’t the constraint

Source: South32 FY26 results release (27 Aug 2026); South32 aluminium value chain sale page (1 Jul 2026)

01 Problem
02 Legal
03 Solutions
04 Ethics
05 Financials
06 Takeaways



A Town That Outlasts the Mine

ENDOWMENT BALANCE, US$M (REAL)

Saving, 4% real return

After closure: pays ~US$10M a year

US$261M
at closure, FY59

US$10M/yr

200

100

0

FY28 · first ore

FY38

FY48

FY59 · closure

Forever

~US$4.2M a year in. No extra cost: already inside the US$203M.

Source: Team model v2; Norway Ministry of Finance, Meld. St. 7 (2025 to 2026)

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

Key Takeaways

1 **Permitted is not accepted**

Federal approvals are in hand; neighbors' trust is not

2 **Verify, sign, share**

Four commitments, each proven elsewhere

3 **Ethics costs less than delay**

~US$203M, paid back by avoiding ~8 months of delay

SURFACE

01 Problem

02 Legal

03 Solutions

04 Ethics

05 Financials

06 Takeaways

Returning to the Surface

THE QUESTION

Has South32 earned its social license, and what will keep it?

OUR ANSWER

Verify, sign and share, before first ore



JEROME

A mine that left nothing behind



PATAGONIA

A town that lasts

Thank You

- Questions welcome

Hard hats may now be removed

BACKUP

Rosemont, Same Forest

HUDBAY'S ROSEMONT COPPER MINE

~US$1.9B open pit in the Coronado National Forest, near Tucson

2019: district court vacated the Record of Decision

May 2022: Ninth Circuit affirmed; project stalled

Plaintiffs included the Tohono O'odham Nation, Pascua Yaqui Tribe and Hopi Tribe

LESSONS FOR HERMOSA

An approved decision can still be vacated in court

Same court, same national forest

Different legal theory, same delay risk

Tribes sued there; make them partners here

Source: E&E News (13 May 2022); Ninth Circuit opinion (12 May 2022), CBD v. U.S. Fish & Wildlife Service

BACKUP · SAY ONLY WHAT YOU CAN PROVE

Claims Risk

PUBLIC CLAIM	STATUS	FIX
“~90% less water than regional mines”	Company projection	Publish method; verify independently
“95% less surface disruption”	In the case; not found on South32 sites	Source it or drop it
“Fully powered with renewable energy”	Goal; temporary gas power until grid line	Say “goal” until contracted
“Up to 900 jobs, 80% local”	Target, not a contract	Put it in the Good Neighbor Agreement

Source: Case p.4; south32hermosa.com FAQ and Final ROD release; South32 FY26 Annual Report

BACKUP

Model Calibration

METRIC (BASE CASE)	SOUTH32	TEAM MODEL V2	GAP
Post-tax NPV, 7% real	US$3,100M	US$3,000M	-3%
Steady-state EBITDA, FY31 to FY59	US$650M	US$625M	-4%
Steady-state EBITDA margin	58%	58%	0
Forward IRR, nominal	19%	20%	+1 pt
Payback year (remaining spend)	n.d.	2034	
Real IRR incl. spend since 2024	n.d.	~10%	

Simplifications: flat real US$, straight-line tax depreciation, no working capital, no closure cost, no critical mineral tax credits. Directional, not a valuation.

Source: Hermosa Project Update (Apr 2026); Hermosa_South32_Financials_v2.xlsx

BACKUP

Sources

Melendez, P. (2026). The Hermosa Project: Mineral Wealth, Ethical Costs? University of Arizona Center for Leadership Ethics.

South32: FID release (15 Feb 2024); FY26 in review; FY26 results release (27 Aug 2026); aluminium value chain sale page (1 Jul 2026); About Hermosa; FAST-41 release (9 May 2023).

South32 Hermosa (south32hermosa.com): Draft ROD (6 Mar 2026), Final ROD (7 Jul 2026) and Final MPO (2 Sep 2026) releases; FAQ; Why Hermosa; Growing Economy.

South32 Hermosa Project Update (30 Apr 2026); South32 Annual Report 2026.

Dermot Cole, The Permanent Fund at 50 (Mar 2026); Norway Ministry of Finance, Meld. St. 7 (2025 to 2026).

Center for Biological Diversity press release, 29 Sep 2026.

E&E News (13 May 2022) and Ninth Circuit opinion (12 May 2022) on Rosemont.

World Resources Institute, Stillwater Good Neighbor Agreement snapshot; Northern Plains Resource Council.

Independent Environmental Monitoring Agency (Ekati), monitoringagency.net. US SIF, Teck Resources and NANA Red Dog case study (Teck filings).

Kant, I. (1785). Groundwork of the Metaphysics of Morals. Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach. Winter v. NRDC, 555 U.S. 7 (2008).

Photos via Wikimedia Commons: The Old Pueblo (CC BY-SA 4.0); Gordon Leggett (CC BY 4.0); Knudsens Fotosenter / DEXTRA Photo (CC BY 4.0); Finetooth (CC BY-SA 3.0); NPS (public domain); J. G. Becker, portrait of Kant (public domain).