Zinc Mining Process Animation

South32 Mining Site Case Study

Project Snapshot

Client: South32

Industry: Mining/Energy/Critical Minerals

Service: 3D Animation, Industrial Visualization, Technical Storytelling

Deliverable: Public Outreach & Education Video

Project Goal: Create a clear educational resource for public relations and industry professionals

> **"Their attention to detail in creating the most realistic version of our infrastructure is unmatched."**
>
> – **Lina Betancourt**, South32

Overview

We worked with South32 to create a 3D animation explaining the zinc mining and processing workflow at the zinc mining site in Southern Arizona. Developed as a public outreach and educational resource, the video guides viewers through the zinc production process—from underground extraction to final concentrate—while emphasizing its importance as a critical mineral and South32's commitment to responsible mining.

Client

South32 is a global mining and metals company headquartered in Perth, Australia. The company produces critical minerals and metals used in infrastructure, energy systems, and industrial manufacturing around the world.

Founded in 2015, South32 operates mining and processing facilities across several continents. They focus on producing resources essential to modern industry and energy systems.

The Challenge

South32's zinc mining site, located in Southern Arizona, has the potential to become one of the world's largest zinc producers. Mining operations of this scale often raise questions from surrounding communities about environmental responsibility and responsible resource development.

To support public outreach and build understanding, South32 needed a way to clearly explain how zinc is produced, while helping communities understand the scale and complexity of modern mining operations. Much of the work occurs deep underground or within specialized processing systems, making key parts of the operation difficult to capture through traditional video alone.

The project required a visual solution that could:

- Explain the zinc mining and mineral processing workflow
- Illustrate operations occurring deep underground
- Show how modern mining practices prioritize safety and reduce environmental footprint
- Provide an accessible resource for public outreach and education

The Solution

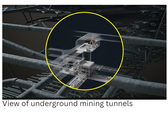
Working closely with their team, we developed a 3D animation that walks viewers through each stage of the zinc production process, with a focus on clearly representing modern mining practices and environmental considerations.

The animation begins underground, where zinc-bearing ore is extracted and transported by autonomous vehicles to an underground crusher. From there, the material is followed through the full processing pipeline to final concentrate production.

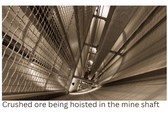
Key stages visualized in the animation include:

- Underground ore transport
- Size reduction in the underground crushing system
- Hoisting ore to the surface via the mine shaft
- Grinding the material in large industrial mills
- Separating valuable minerals through flotation cells
- Dewatering zinc concentrate for shipment

Process Visualization Highlights

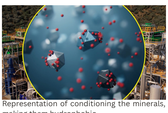


View of underground mining tunnels



Crushed ore being hoisted in the mine shaft

Above ground grinding circuit



Representation of conditioning the minerals, making them hydrophobic

Project Outcome

The zinc processing animation serves as a clear communication tool for South32, helping translate complex mining operations into an accessible visual format.

The animation enables South32 to:

- Support public outreach with clear communication of the operation and its purpose
- Improve understanding of complex underground mining and processing operations
- Provide a reusable visual resource designed to support presentations, outreach, and broader communication efforts
- Reinforce messaging around safety, environmental responsibility, and modern mining practices

**Note: This video will likely be an embedded video on the web page. So it's final look may be different.

Client Testimonial

"Abbott Animation created an animated video of our zinc process that exceeded our expectations. Their attention to detail in creating the most realistic version of our infrastructure is unmatched.

This video has allowed us to easily explain to the general public what our future process will look like and visualize something partly underground which they will not otherwise get to see.

We look forward to developing other animation videos showing other parts of our mining operations."

— **Lina Betancourt**, South32

Conclusion

This project highlights how 3D animation can make complex industrial processes easier to understand for a broad audience.

By combining technical accuracy with visual storytelling, Abbott Animation helps organizations translate engineering processes, infrastructure projects, and advanced technologies into tools that support communication, education, and stakeholder alignment.

Visualize Your Industrial Process

Clear communication drives better understanding, team coordination, and decision-making. Abbott Animation creates high-quality 3D visuals that help organizations communicate complex processes with clarity and impact.

If you're looking for a way to explain your technology, systems, or infrastructure project, **contact us to discuss your next project.**

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