Agenda

Hermosa Advisory Panel Meeting #9
Wednesday, January 19, 12p-2p

Zoom

12:00 Review Agenda

12:05 Moment of Silence: Remembering Panelist Adelmo Sandoval

12:10 Acceptance/Amendments to Meeting Minutes: November

12:15 South 32 Update – Temporary Cross Creek Connector/Flux Canyon Road

12:35 Panelists: Report Updates

- Patagonia Area Resource Alliance
- The Nature Conservancy

12:45 Welcome to New Panelists/Get to Know Existing Panelists

- Guillermo Valencia, Past Chair, Nogales-SCC Port Authority
- Chris Young, Deputy SCC Supt of Schools
- John Fanning, Rio Rico School District Outreach Coordinator
- Fritz Sawyer (Sonoita), retired, mining/water reclamation past employment and volunteer, Arizona Fish and Game

1:20 Review/Brief Discussion

- 2021 Panel Activities Report – Dr. Angela Donelson
- Hydrological intermediary activities 2021 year end report - University of Arizona Distinguished Professor of Hydrology and Water Resources Dr. Ty Ferre

1:30 Scope of Work with Dr. Ty Ferre's Graduate Student David Morales: Technical Assistance budget allocation for literature review of best practices -- Good Neighbor Agreements

1:35 South32 Updates: Prefeasibility report, Social Impact Opportunity Assessment, Newfields dewatering options roadmap, Procurement plan

2:00 Wrap Up and Looking Ahead: February 16 meeting

Hermosa Advisory Panel Meeting #9
Wednesday, January 19, 12p-2p

The meeting of the Hermosa Advisory Panel was called to order at 12:03 pm on January 19, 2022, on Zoom by Angie Donelson

Attendance

- Meeting Facilitators: Angie Donelson
- South 32 Hermosa Advisory Panel Members: Chris Young, Guillermo Valencia, John Fanning, Linda Shore, Marcelino Varona, Maritza Cervantes, Michael Young, Olivia Ainza-Kramer, Ruth Ann LeFebvre, Gerry Isaac
- South 32 Hermosa Advisory Panel Members Absent: Carolyn Shafer, Damian Rawoot, Liz Collier, Fritz Sawyer
- South32: Melanie Lawson
- Consultants: Hydrogeologist Ty Ferre and Robin Breault
- Scribe: Lizbeth Perez

12:03 Review Agenda

- Angie Donelson identified main meeting goals as discussing new information from South 32 (proposed work on the Temporary Cross Creek Connector/Flux Canyon Road, Prefeasibility report, Social Impact Opportunity Assessment, Newfields dewatering options roadmap and Procurement plan) and welcoming our four new panelists

12:05 Moment of Silence: Remembering Panelist Adelmo Sandoval

- Angie shared Adelmo's obituary published in the Nogales International

12:10 Acceptance/Amendments to Meeting Minutes: November

- Amended minutes to make it clear that Melanie Lawson was not in the room for the vote about keeping her part of the conversations about South32
- Minutes approved, no objections.

12:15 South 32 Update – Temporary Cross Creek Connector/Flux Canyon Road

- Melanie Lawson: Shared slide (Appendix A) about the panel's involvement in the selection of the temporary road and how much influence panel has in this process. South32 had collected significant public comments on the temporary route in Patagonia before the panel had been created in the spring of 2021. Going forward, the panel will be involved as the first point of public information and in recommendations for the road design and mitigation strategies.

Melanie presented a draft brochure summarizing how the temporary route selection was determined, based on South32's prior work on this topic to date (that is, how we got to where we are and what information was considered in the temporary route selection process). She will present this back to the panel as a draft public information brochure before release to the general public.

- Linda Shore: This will be of great value – especially showing how South32 eliminated routes in the process.

- Marcelino Varona: I need clarification about something that came up in a meeting of the Board of Supervisors this month. There was confusion about this issue -- a land donation that South32 would give to the county for the temporary road; some thought the county was donating the land to South32. I just need clarification.

- Melanie Lawson: South32 proposed a land donation to Santa Cruz County, not the other way around. The goal would be for South32 to retain a right of an easement for the temporary road. In the long term, community could use this for open-space conservation and recreational use, post-South32 use of the road. South32 is committed to eventual open-space dedication or recreational use after completing a public process with people affected in the area and others in the community.

- Marcelino Varona: That brings clarification. There were misleading statements made at that meeting. We need to make sure our committee has validity in this process – and that we can clarify the use of that property.

- Ruth Ann LeFebvre: As a committee, we never talked about transportation. It came up in the very last page of our year-end report, which summarized the work of the panel this past year. If we produce a pamphlet explaining this process on transportation has already been decided, that is confusing to me.

- Marcelino Varona: When we had our breakout sessions this year as a panel, I remember distinctly talking about transportation.

- Michael Young: We did have conversations about this issue with Pat Risner. He gave us a presentation and briefed the panel on transportation issues coming through Flux Canyon, as well as coming through Harshaw and going through Redrock.

- Maritza Cervantes: Those were a subgroup discussion. As a panel, we have not yet had a full discussion about transportation issues.

- Ruth Ann LeFebvre: Transportation was our #3 priority as a panel after water and workforce issues, but we never got into detail as a group. We were told once the prefeasibility study came out, we could start talking about the transportation routes. Now it seems it's decided.

- Melanie Lawson: This pamphlet is just a draft of what has been done on the temporary route selection to date. The purpose of the pamphlet is to help formulate public discussion, if it would be beneficial.

- Angie Donelson: Ruth Ann, I hear what you are saying. I'd like to reframe this and ask if my interpretation of what we might do as a panel moving forward. We need to clarify our role in the process. The panel should be the first point of contact in any South32 decisions, even if they are just for informational purposes. Ruth Ann, my understanding was also that prefeasibility study details were important to release first before our panel considered recommendations on future transportation issues.

  From my perspective, having a clear process for the panel, as defined in the brochure for the public, is very important. The panel can be informed of decisions, and it can be an initial point of contact for future discussions with the community, and as to where decisions then proceed to the county on agreements or land dedication issues.

- Marcelino Varona: I wanted to make a comment to make sure new panelists today did not come away with any misunderstanding. South32 has presented us with information clearly to date; none of it has been pre-decided for us. We have had an open dialogue and our participation has been straightforward.

- Melanie Lawson: Thank you. Yes, our pamphlet can explain the route study and public participation to date. It can outline the role of the panel, which as we said in this route study process to date is on the inform/consult end of the participation spectrum. The brochure will clearly define process going forward. The panel can be first reviewer of information that is released to the community.

- Linda Shore: This makes sense to me. I wanted to confirm the audience for pamphlet is the general public?

- Melanie Lawson: Yes

- Gerry Isaac: I would like to affirm South32 has done a good job of publicly discussing and putting out information regarding its thinking on the routes. Material has been published in the Patagonia Regional Times, and there have been meetings. That information is out there and is pretty well distributed. A pamphlet would provide even more information.

- Linda Shore: I agree, South32 has done a good job providing public information on this issue. Having a brochure would be helpful.

- Ruth Ann LeFebvre: The brochure should also say these temporary road issues were discussed before we were even a panel. We need time at our next meeting to discuss concerns or changes we want to make to this pamphlet.

- Melanie Lawson: Yes, the pamphlet will clarify the panel's role to date.

- Angie Donelson: I would suggest we potentially need two pamphlets: one fact sheet about these transportations, and one about the panel's role in community input. We may want a series of fact sheets as issues are considered, and it would be helpful to have these on the South32 webpage.

- Melanie Lawson: Yes, we can work on these.

12:33 Panelists: Report Updates

- Patagonia Area Resource Alliance
    - Angie Donelson: Carolyn Shafer is in Phoenix this week. I have provided her informational sheet update. As panelists, you can direct questions to her, and she can answer them at the next meeting.

- The Nature Conservancy
    - Angie Donelson: Damian Rawoot told me he was unable to attend this meeting, and he had a family emergency. He will share an information at our next meeting.

- Marcelino Varona: Damian is a very participatory member of this panel. He shouldn't be dropped from panel when he reaches his third absence.

- Michael Young, Linda Shore and Gerry Isaac concurred.

- Angie Donelson: Yes, I agree. Olivia Ainza-Kramer brought this up after our November meeting – if members are sick or absent due to family emergencies, they should not be penalized or dropped from the panel. I will propose a change to our charter document and get this to the panel for a vote.

12:37 Welcome to New Panelists/Get to Know Existing Panelists

- Angie Donelson: Please welcome our new panelists (see Appendix B of all panelists and their networks to date). They include Guillermo Valencia, Past Chair, Nogales-SCC Port Authority; Chris Young, Deputy SCC Supt of Schools, John Fanning, Rio Rico School District Outreach Coordinator

and Fritz Sawyer, retired, who was previously employed in mining/water reclamation. He is also a volunteer, with Arizona Fish and Game. Angie led the group in an activity where panelists gained understanding of what brought them to this group.

1:40 Review/Brief Discussion: 2021 Year-End Panel Activities Report – Dr. Angela Donelson

- Angie Donelson: Did I adequately capture the panel's past activities and where were headed? (see Appendix C)

- Ruth Ann LeFebvre: I have a concern about page 6, future directions for 2022. We covered the first three issues past year, but nothing yet about the fourth issues -- the mitigation of impacts of the transportation route. Every time it is brought up, we as a panel we are told we are waiting on the South32 prefeasibility report. Now, that South32 has released it this month, I'm assuming we'll be talking about transportation?

- Angie Donelson: You are correct, transportation is something that is important to panel. We will be discussing more about that this year.

1:45 **Review/Brief Discussion: Hydrological intermediary activities 2021 year end report - U of Arizona Distinguished Professor of Hydrology and Water Resources Dr. Ty Ferre**

- See Appendix D for report

- Marcelino Varona: The report is excellent. I would like to spend more time with the professor expressing concerns about dewatering, impacts of potential flood risk, what the mine is going to do to replenish water and how and is there possibility of contamination. I hope that can be a priority along with catching up the new members.

- Ty Ferre: Yes. I recommend sharing the videos on hydrologic concepts students produced with new panelists. I agree now is the time to talk about specifics. I thought the prefeasibility study would be accompanied by new hydrologic investigations and my read of it is that that is not the case. Melanie mentioned it would be good to talk in detail about water plans with the mine with the community and I am all up for that.

- Marcelino Varona: Those videos should be required viewing for the new panelists to better understand the professor's presentations

- Angie Donelson: At our next meeting, we're planning on having Ty come back. We will talk through a strategy for addressing this broad range of issues.

1:48 Scope of Work with Dr. Ty Ferre's Graduate Student David Morales: Technical Assistance budget allocation for literature review of best practices -- Good Neighbor Agreements

- See Appendix E for scope of work. Unanimous vote: yes to funding scope of work

2:00 South32 Updates: Prefeasibility report, Social Impact Opportunity Assessment, Newfields dewatering options roadmap, Procurement plan

- Melanie Lawson: The panel already reviewed the scope of work for the Social Impact Opportunity Assessment. That was bid out in December, and South32 awarded the contract this week. Next step is a kickoff meeting with panel – we can do that with a subset of the group, the whole group at a meeting, or parts of this online.

- Ruth Ann LeFebvre: Why would we review it as a subset of the group or as a whole group?

- Melanie Lawson: There is a lot on the agenda. A subgroup could address the issues -- or we can try to squeeze it in on the agenda. For South32, this work needs to be completed as part of the feasibility phase, so we need to get it wrapped up around August or September of 2022.

- Linda Shore: Can information be sent to us over email to review ahead of time, so we do not need to have a prolonged discussion?

- Melanie Lawson: Yes. If it was a subset of the panel, they would be involved in a kick off meeting with the consultant. They could assist in identifying community stakeholders for interviews and to provide additional information about concerns and interests.

- Angie Donelson: If a subgroup, they could meet between now and our next meeting. We have so much to do, a subset makes sense.

- Marcelino Varona: I am not for a subset of the larger group. I would like the entire panel to hear what's happening in case someone has a disagreement.

- Angie Donelson: I will get a survey out to the panel, then, as to whether we would like to address the process as a full panel online or a full panel in person in March. Everyone will have an opportunity to review it, but not everyone has to participate.

- Melanie Lawson: As for the dewatering discussion roadmap, I am working on next steps based on the panel's feedback. I will be drafting a what a roadmap looks like for the next few months with Ty Ferre. We will present this at the February meeting to make sure all panelists' concerns are answered and what will be covered in the months ahead.

- Melanie Lawson: The South32 prefeasibility report was released this month (Appendix F). Everything is on our website. There is presentation designed for an investor audience. The prefeasibility report is a summary of the more than 1,000 page document. We are working repackaging key highlights to make it digestible. We can spend time at the February meeting going into the details.

  This deposit will have a 20+ year life, and target for production is scheduled for fiscal year 2027. There is a focus in the report on low carbon development with electric vehicles and automation. If there's specific things you would like for us to cover at the February meeting, please let me know. Pat Risner is planning to provide the panel with a February update.

- We have had prior open house events in Patagonia to answer questions as information has come out. We would like to do an open house at the end of March – at that time, we will be releasing information as to the economic impacts locally. Would the panel be interested in participating? If you would like, you could host a table to explain your role. We will discuss more about this at our next meeting.

- I will be sure to send out the scope of work for our local procurement plan after this meeting; panelists are encouraged to provide feedback (see Appendix G).

2:14 Wrap Up and Looking Ahead: February 16 meeting

- Angie shared that discussions with include:
  - Further details/discussion about the prefeasibility study
  - Review of the draft brochure about the selection of the temporary transportation route and the panel's role in the public process
  - Discussion about the panel's potential role in a South32 open house planned for March
  - The process roadmap with Dr. Ty Ferre for the Newfields dewatering options and related water concerns
  - Next steps in the panel's role with consultants in the Social Impact and Opportunity Assessment process and scope of work for South32 local procurement

Appendix A

Hermosa Advisory Panel - Issues To Consider In Your Level of Empowerment as a Panel

How Much Influence You Have At Different Points in Negotiating with S32

Road design and mitigation strategies

developed by the international association for public participation

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decision.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Route selection

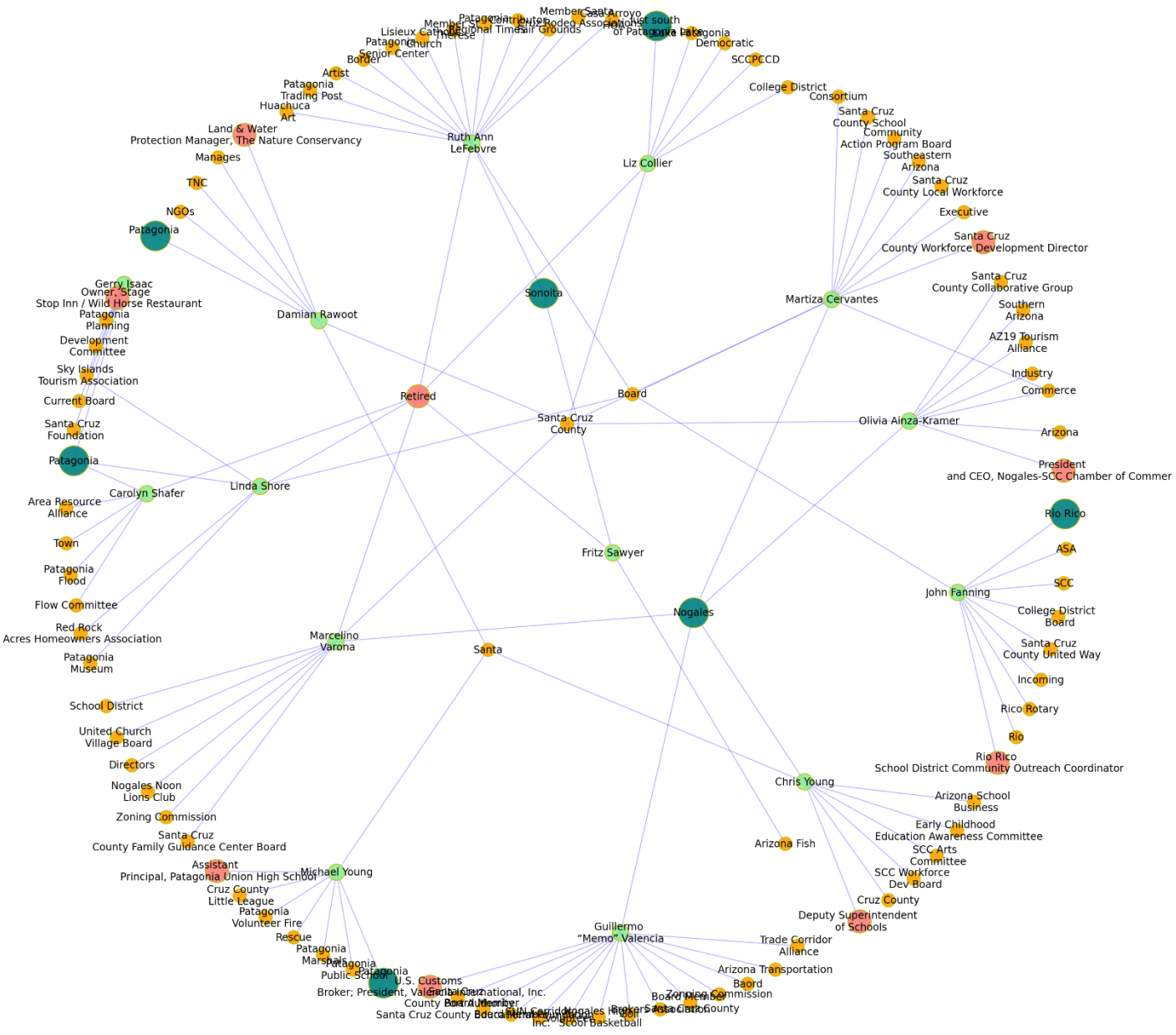
Appendix B

List of Panelists and Affiliations – Hermosa Advisory Panel 1.22.22

Panelist	Employment	Affiliations	Community
1. Olivia Ainza-Kramer	President and CEO, Nogales-SCC Chamber of Commerce	Arizona Chamber of Commerce and Industry, Arizona @ Work Santa Cruz County, AZ19 Tourism Alliance, Southern Arizona Chamber Association, Santa Cruz County Collaborative Group	Nogales
2. Martiza Cervantes	Santa Cruz County Workforce Development Director	Executive Director for the Santa Cruz County Local Workforce Development Board, Southeastern Arizona Community Action Program Board, Nogales- Santa Cruz County Chamber of Commerce, Santa Cruz County School Superintendent's Consortium	Nogales
3. Liz Collier	Retired	Governing board of Santa Cruz County Provisional Community College District (SCCPCCD), Vice-Chair of the SCCPCCD, Democratic Precinct Captain for the Lake Patagonia Community and on the board of the Lake Patagonia Community Homeowners Association	Just south of Patagonia Lake
4. Ruth Ann LeFebvre	Retired	Board director for Casa Arroyo HOA, Member Santa Cruz Rodeo Associations (Fair Grounds in Sonoita), Contributor to Patagonia Regional Times, Member St Therese of Lisieux Catholic Church, Patagonia Senior Center, Voice From the Border, Artist - Patagonia Trading Post, Huachuca Art Association	Sonoita
5. Damian Rawoot	Land & Water Protection Manager, The Nature Conservancy	Manages many of TNC's collaborative relationships across Santa Cruz County including with other NGOs, agencies and private landowners members, member of group organizing economic study focused on the nature-based economy in Santa Cruz County	Patagonia
6. Gerry Isaac	Owner, Stage Stop Inn / Wild Horse Restaurant	Current chairman of the Patagonia Planning and Development Committee, past president and treasurer of the Sky Islands Tourism Association, Current Board Member of the Santa Cruz Foundation for the Performing Arts	Patagonia
7. Carolyn Shafer	Retired	Patagonia Area Resource Alliance and Town of Patagonia Flood & Flow Committee	Patagonia
8. Linda Shore	Retired	President of the Sky Islands Tourism Association, President of the Red Rock Acres Homeowners Association, Board of the Patagonia Museum, serving as curator	Patagonia
9. Marcelino Varona	Retired	Nogales Unified School District and Santa Cruz County Provisional Community College Governing Boards. Member of the United Church Village Board of Directors. Member of the Nogales Noon Lions Club and the Santa Cruz County Planning and Zoning Commission, Member of the Santa Cruz County Family Guidance Center Board of Directors	Nogales
10. Michael Young	Assistant Principal, Patagonia Union High School	Santa Cruz County Little League board; Patagonia Volunteer Fire & Rescue & Patagonia Marshals Office Patagonia Public School	Patagonia
11. Guillermo "Memo" Valencia	U.S. Customs Broker; President, Valencia International, Inc.	Past Chairman- Nogales & Santa Cruz County Port Authority, Board Member Santa Cruz County Educational Foundation, Board Member SUN Corridor Inc., Volunteer coach Nogales High School Basketball & Golf, President-Nogales Customs Brokers Association, Board Member Santa Cruz County Planning & Zoning Commission, Board member Arizona Transportation & Trade Corridor Alliance	Nogales
12. Fritz Sawyer	Retired	Past employment in mining and water reclamation; Arizona Fish and Game volunteer	Sonoita
13. Chris Young	Deputy Superintendent of Schools	Santa Cruz County Community Foundation board, and SCC Workforce Dev Board; SCC Arts Committee; Early Childhood Education Awareness Committee; Arizona School Business Officials	Nogales
14. John Fanning	Rio Rico School District Community Outreach Coordinator	Rio Rico Rotary (Incoming President) - Santa Cruz County United Way -SCC Provisional Community College District Board - SCC First Thing First Board – ASA	Rio Rico

Appendix B

Hermosa Advisory Panel
networks as of 1.24.22



2021 Report
Santa Cruz County Advisory Panel on the South32 Hermosa Project

Abstract

This report summarizes the first-year work of an advisory panel created to advise South32, a global mining and metals company, on community priorities relating to the company's development option (the Hermosa Project in Santa Cruz County, Arizona). This report describes 1) South32's purpose in creating the panel; 2) The panel's purpose and priorities; 3) How the panel addressed their goals in 2021; 4) The panel's planned work in 2022.

Prepared by Angela Donelson, Ph.D., AICP
Donelson Consulting LLC
January 2022

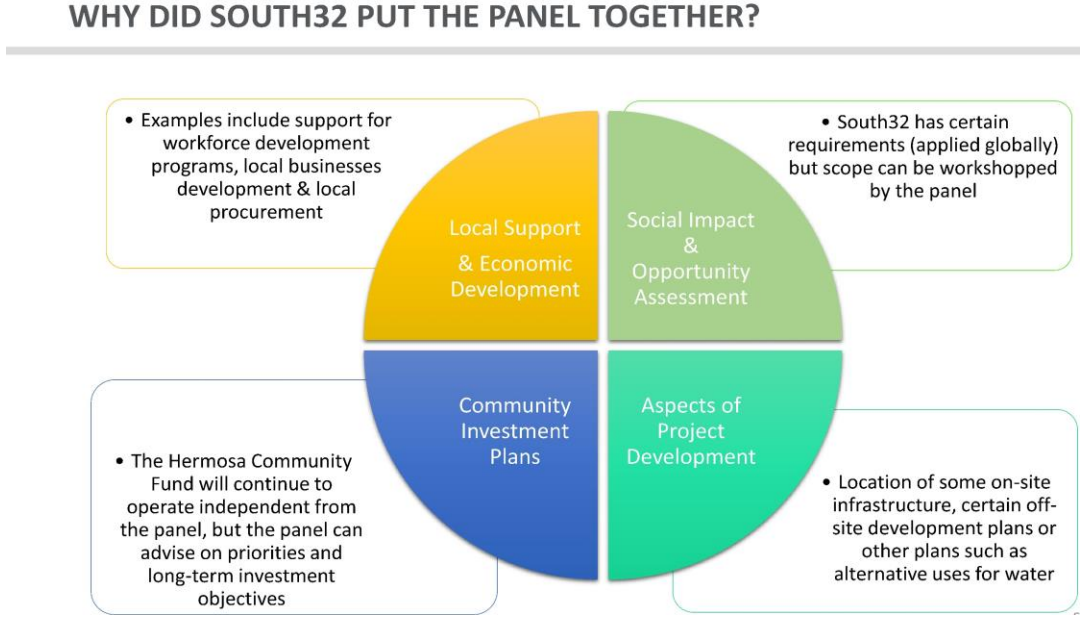
Introduction

South32, through its wholly-owned U.S. subsidiary Arizona Minerals Inc, a mining and metals company with a project in Santa Cruz County, is in early stages of studying the potential for an underground mine about six miles southeast of Patagonia. This development option is called the Hermosa Project.

In the spring of 2021, South32 contracted with consultant Angela Donelson, Ph.D., AICP, to invite residents of Santa Cruz County to serve on an advisory panel. The panel's role is twofold: to advise South32 on aspects of their project development that impact communities in Santa Cruz County, Arizona and to identify joint goals and priorities that could benefit both the larger community and South32. This report summarizes the panel's work from April through December 2021. It also provides future direction for the panel as to potential community impacts and opportunities as the company prepares to release a report summarizing the outcomes of the prefeasibility study.

This report is organized in four sections, which include: 1) South32's purpose in creating the panel; 2) The panel's purpose and priorities; 3) How the panel addressed their goals in 2021; 4) The panel's projected work in 2022.

Figure 1



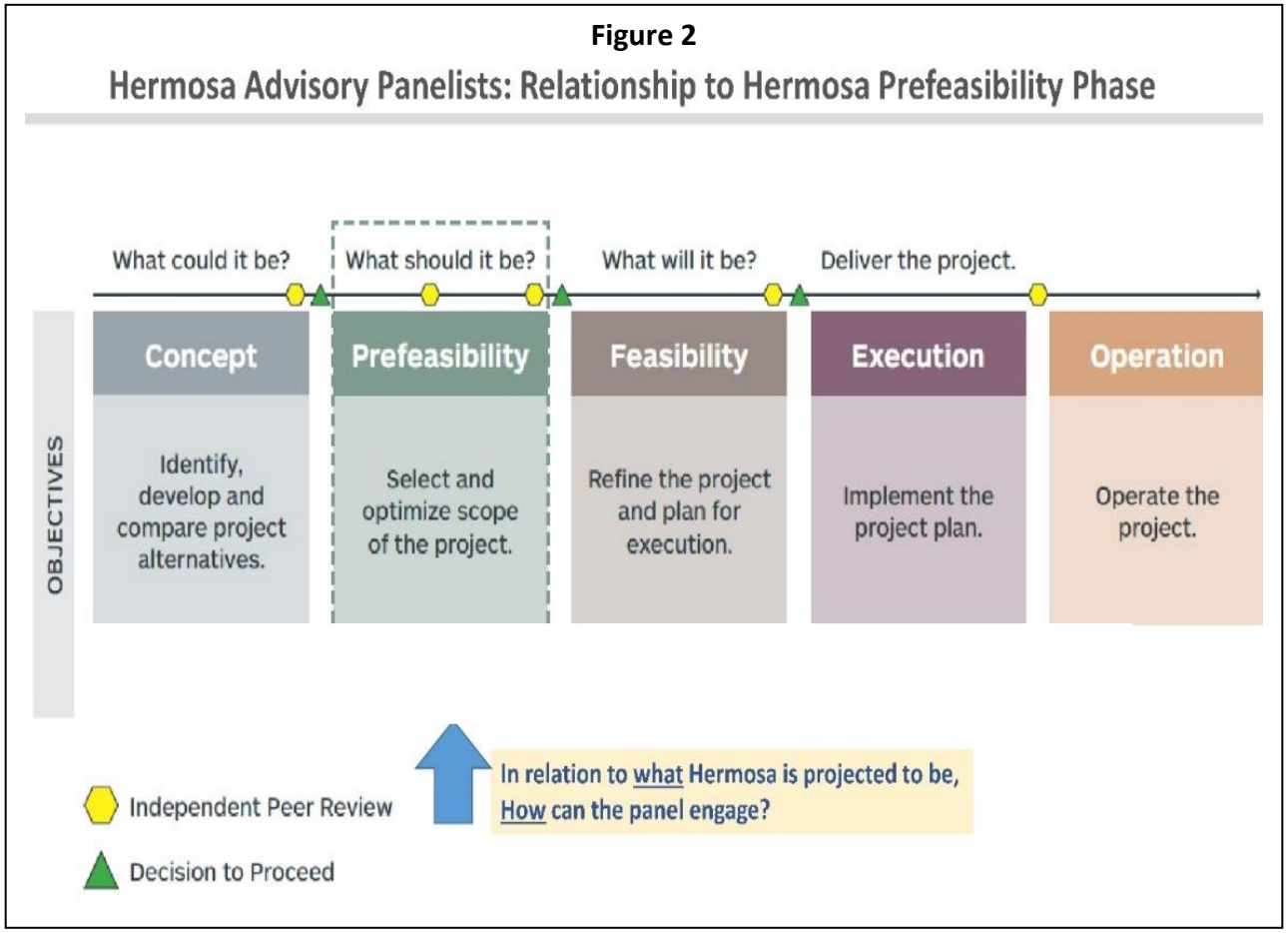
South32's Purpose in Creating the Panel

Given its work globally, South32 has found community engagement essential to effective partnerships and to more effectively understand and mitigate community impacts.

Figure 1 illustrates four sets of issues in which South32 has asked the panel to assist: guiding its Social Impact and Opportunity Assessment, informing aspects of the mine's development (including impact and mitigation strategies), providing support for workforce planning and economic development, and advising aspects of community investment. The company has committed to making $150,000 available to the panel over the next three years to hire experts and technical assistance to inform the panel's decision-making processes.

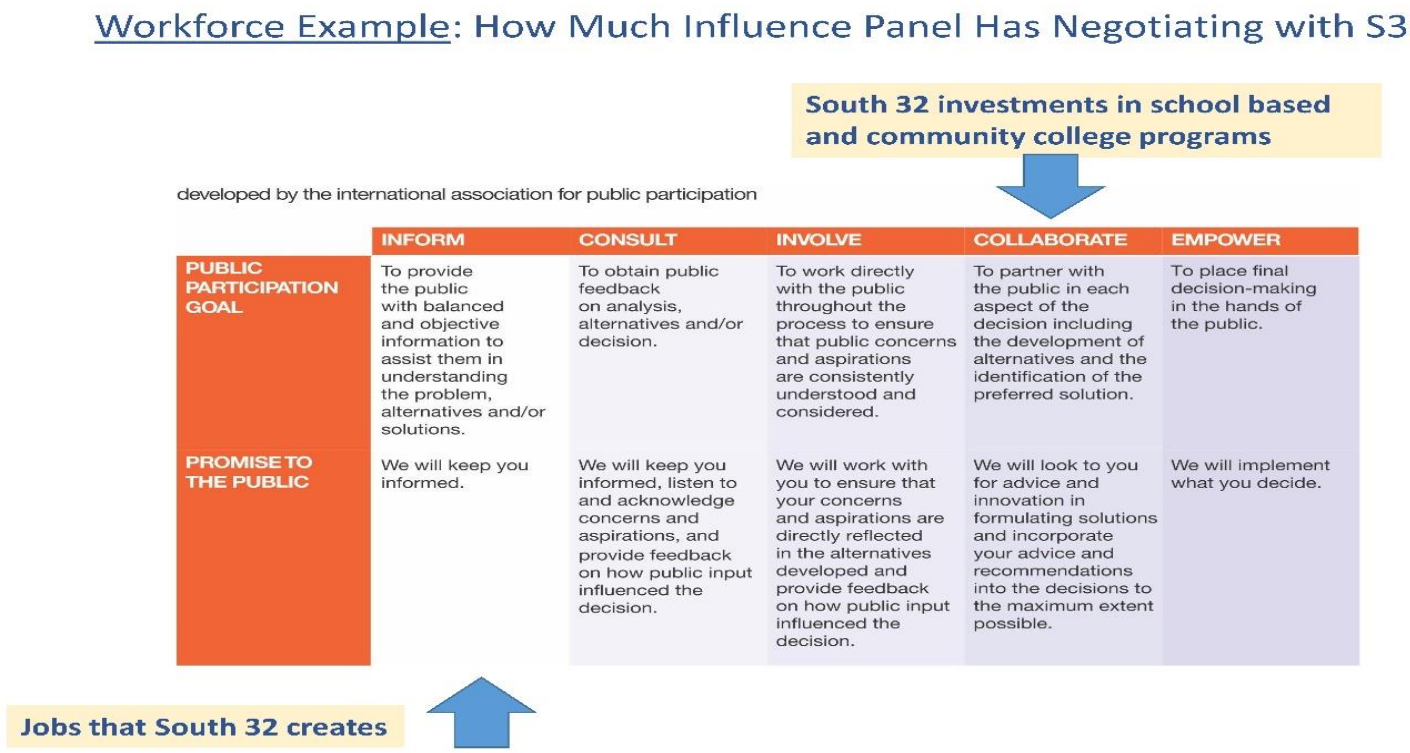
South32 is in the prefeasibility stage of the Hermosa Project (project phases are shown in Figure 2). The Hermosa Project is a development option in an historic mining district in the Patagonia Mountains. South32 acquired the project in 2018, and preliminary studies revealed it contains a world-class resource of critical base metals essential for everyday needs. The company is in process of identifying a preferred development path which will then transition the project to the feasibility phase and more in-depth analysis. South32 anticipates releasing its prefeasibility report in January 2022.

Figure 2



Once the prefeasibility report is released, South32 envisions the panel will use the information contained within it to make recommendations on a range of issues related to continued project development. These recommendations will be bound to a continuum of public participation (see example in Figure 3 on the following page). How much influence the panel exerts on any given issue will be a negotiated process between South32 and the panel, with South32 initially defining how much participation the panel has on any given company issue that has community impacts. The panel will vote (or choose not to vote) on those issues. Voting will be contingent upon how much participation and decision-making authority panel has -- and is comfortable with – in this process.

Figure 3



The Panel's Purpose and Priorities

Even though the prefeasibility report has yet to be released, the panel has worked in 2021 to build a knowledge base on a range of issues, which will help it make more informed recommendations during the next stage of project development.

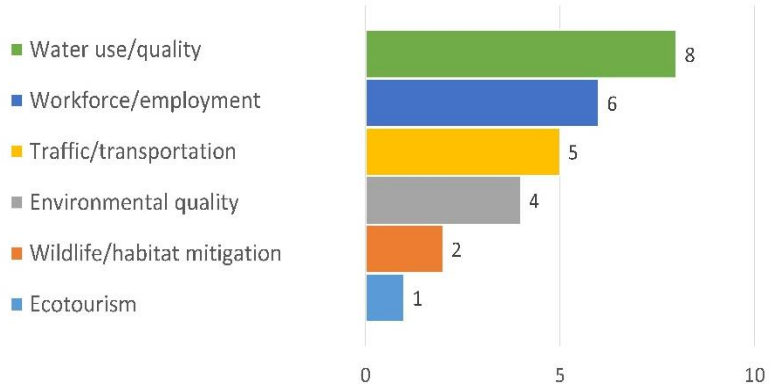
The company first publicized the invitation to apply to the panel through county media and its newsletter. South32 contracted with Dr. Donelson to develop and lead the process and select panelists to broadly represent community interests. In March, she communicated with 25 individuals about the panel and selected 14 with diverse perspectives to serve. Panelists committed to attending a two-hour monthly

meeting the third Wednesday of the month, as well as their time to review materials/prepare for the meetings. All have strong networks with existing local and regional boards, committees, formal and informal community and business associations. More on the panelists, their networks and communities represented are shown in Appendix A.

The panel first convened in April 2021. Shortly thereafter, they named themselves the Santa Cruz County Advisory Panel on the South32 Hermosa Project and adopted a charter document with operating principles (Appendix B).

Over the course of the year, two of the panelists passed away and two had to step off the panel due to other commitments. In addition, a fifth panelist, the town manager of Patagonia, was replaced by Patagonia Planning and Zoning Chair Gerry Isaac. The consultant is in process of recruiting up to four new panelists to support the 10 panelists currently serving.

Figure 4 - Top Issues Named Important to Panelists



Over eight meetings, panelists confirmed and developed consensus that water and workforce issues were priorities most important to them. These are reflected in Figure 4 and were also named in their application process.

How did the panel address their goals?

The panel developed greater understanding about potential water-related impacts and workforce development. This process required all members of the panel to contribute in ways that were respectful of their diverse viewpoints, mindful, structured and time effective (and, aptly stated by one of the panelists, “not a marketing exercise”). In their meeting evaluations, panelists repeatedly said they enjoyed learning with and from each other and the diversity of perspectives on the panel. All 10 panelists affirmed their commitment to continuing with the process into 2022. Panelists also said they appreciated the detailed meeting minutes and process by which South32 has posted them publicly at https://www.south32.net/hermosa/documents. This has helped new members and stakeholders brought into the process catch up on what they need to know.

The panel developed, identified and ranked questions and issues of greatest importance. At its May and June meetings, for example, the panel identified preliminary outcomes for their water-related concerns (see Appendix C). Similarly, at its August, September and October meetings, the panel identified countywide workforce needs, opportunities and important unknown issues to explore further (see Appendix D). Framing these questions for both water related impacts and workforce issues enabled the panel to contract with experts to take a deeper

exploration into learning more about them so as to make informed recommendations. The panel retained two experts with its technical assistance budget: Ty Ferre, Ph.D., for water-related impacts, and Dr. Robin Breault, Ph.D., for workforce development. The panel voted to allocate $5,000 to each out of the panel's $150,000 three year technical assistance budget (see Appendix E for their scopes of work).

Exploring Water Related Impacts

Dr. Ty Ferre is a Distinguished Professor in the University of Arizona Department of Hydrology and Water Resources with more than 150 peer reviewed publications. He advises stakeholder organizations internationally on subsurface hydrology. His role with the panel is that of a "hydrologic intermediary" to answer: How can the panel make sense of competing models about the impacts of dewatering -- that is, the action of removing groundwater from the proposed underground mine -- in the short term, and water use of the mine in the long term? How can the panel use this information to guide decision making?

Over the course of the year, Dr. Ferre helped the panel formulate some basic understanding of what is known and what is unknown about hydrological systems – how dewatering proposed by South32 could impact groundwater and surface water availability and quality. Dr. Ferre helped the panel build understanding of the inputs and assumptions that went into two different models – one prepared by Clear Creek Associates jointly for the Town of Patagonia and South32, and a second prepared by Lacher Hydrogeological Consulting for the environmental watchdog organization, Patagonia Area Resource Alliance. Both models projected different flood risks along Harshaw and Sonoita Creeks resulting from the proposed four-year dewatering activities for exploration. Dr. Ferre's continued support will help the panel in 2022 assess underlying model assumptions and uncertainty in the context of recommending options for alternative uses of dewatering other than discharge.

In 2021, Dr. Ferre also brought his University of Arizona class, Fundamentals of Subsurface Hydrology, through the university's "experiential learning accelerator" to help answer 12 core questions important to understanding hydrological concepts. The student project, to be finalized in early 2022, will produce videos available for the full panel and community to review. Several panel members recommended this resource could accompany a community open house to inform interested Santa Cruz County residents about basic hydrological principles as well as the panel's work.

Exploring Workforce Opportunities and Concerns

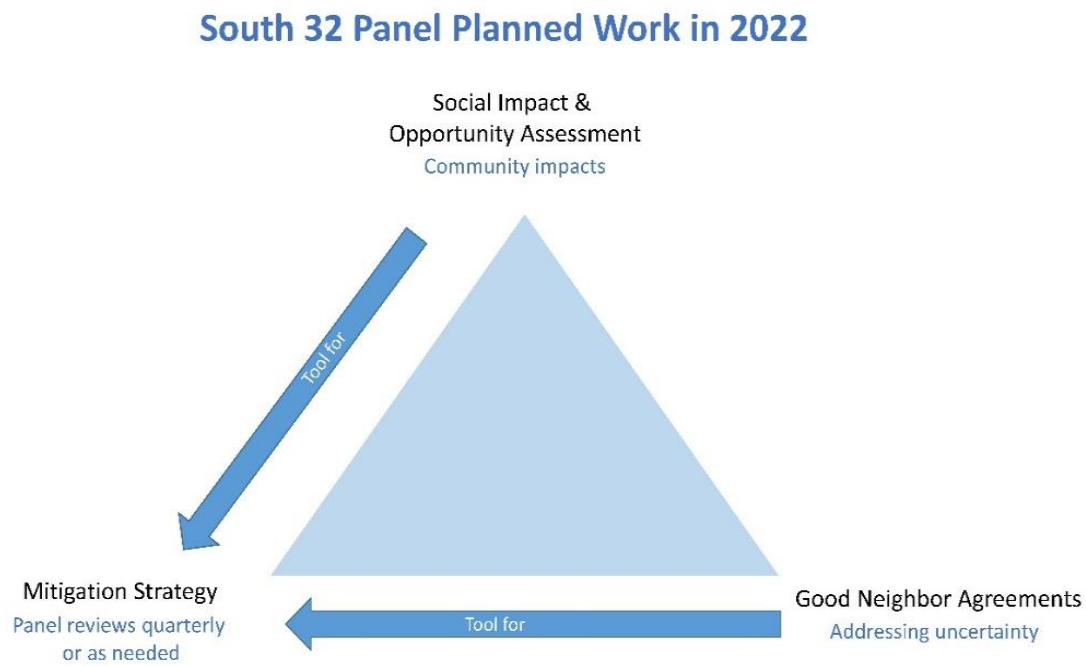
Dr. Robin Breault is the co-founder of LeadLocal, a social enterprise based in Tucson, AZ. Dr. Breault is a subject matter expert in the area of student career guidance and has extensive experience developing adaptable and equitable career connected education models. In addition to supporting Dr. Donelson with facilitation of panel meetings, her role is to help South32 and the panel develop a clear understanding of skills, funding priorities, and curricular opportunities needed for workforce development. Her initial assessment, planned for February 2022, will help South32 and the panel identify specific pathways forward. As part of this effort, Dr. Breault is helping the panel align, or "crosswalk,"

South32's needed workforce skills. "Crosswalking" is important to assessing the skills needed for promotion in the workforce; even if individuals do not possess the higher wage skill sets, this alignment can help them be developed in strategic ways.

Student Learning Opportunities

Early in the process, panelists expressed interest in connecting their work to student learning opportunities. To date, three students have participated with the panel in these experiences. University of Arizona environmental science graduate student Taylor McCoy, an intern with The Nature Conservancy, coordinated Dr. Ty Ferre's student experiential learning accelerator; the University of Arizona supported her work with a $1500 stipend. University of Arizona Lizbeth Perez, an undergraduate studying Renewable Natural Resources, served as a scribe, taking all minutes for the panel. One of Dr. Ferre's graduate students, David Morales, who attended one of the panel meetings, is pursuing a Master's Degree from the University in Hydrology and Water Resources. He is interested doing a literature review for the panel on Good Neighbor Agreements under Dr. Ferre's supervision and a master's thesis informed by this work. Good Neighbor Agreements are agreements between communities and companies to provide safeguards for an area's quality of life.

Figure 5



Future Direction for 2022

At their last meeting of the year, panelists agreed their top priorities, in rank order, are to:

1) Review and work through implications of the forthcoming South32 prefeasibility report
2) Continue to understand potential groundwater impacts of mining, in part to make informed recommendations about alternative uses of dewatering other than discharge
3) Develop workforce strategies so South32 can hire locally
4) Understand and mitigate the impacts of the transportation routes the mine will use to transport concentrate

South32 and Dr. Donelson have proposed a framework for moving forward (Figure 5) as the panel works through implications of the prefeasibility report.

In the coming year, this will include working with three sets of studies and strategies. The first will include panel engagement in development and use of a Social Impact and Opportunity Assessment. South32 will contract with a consultant for this assessment by early spring of 2022. It will incorporate outcomes of the prefeasibility report and analyze community impacts (both positive and negative) and propose mitigation actions as well as potential development opportunities. At the same time, the panel will explore use of Good Neighbor Agreements as a tool for holding South32 to the panel's and community's desired goals. These two tools, the Social Impact and Opportunity Assessment and Good Neighbor Agreements, can be jointly used to inform a mitigation strategy for water-related concerns, workforce needs, and transportation impacts. Dr. Donelson will help the panel develop this strategy, which will include measurable activities that the panel can assess on a quarterly or as-needed basis.

Recommendations for Alternative Uses of Dewatering Water Other Than Recharge and Longer Term

In 2022, Dr. Ty Ferre will continue to assist the panel in addressing how modeling can address citizens' concerns. He will support the panel in discussing alternative uses of water in Patagonia created as a result of the project's proposed dewatering activities that align with community values. Dr. Ferre's advice will guide the panel to address questions such as: What amount of change can we expect? How much change can the community tolerate because of dewatering? What longer-term water uses of mining are anticipated?

Additional resources will be made available to assist the panel and Dr. Ferre in making recommendations. The panel will work through a process that includes the following steps:

- A firm, Truescapes, will model water discharge into Harshaw Creek. With Dr. Ferre's support, the panel will define their desired outcomes.
- A second firm, Unearthed, will propose scientifically validated crowdsourced solutions for alternative uses of the discharged water. With Dr. Ferre's support, the panel will explore options and review proposed solutions.
- In a third step, panel recommendations will go to South32 for recommended development options for alternative uses of dewatering other than discharge.

Good Neighbor Agreements

As the panel proceeds to understand uncertainty associated with water and workforce development concerns, it can address many of them through Good Neighbor Agreements. Good Neighbor Agreements can help clarify what the community wants and provide a framework for strategies to mitigate risk.

Dr. Ty Ferre and his graduate student David Morales are proposing a scope of work for a "best practices" review of Good Neighbor Agreements in January 2022. That review of the literature will inform how stakeholders in Santa Cruz County can begin to negotiate their own agreement with South32.

Workforce Concerns and Opportunities

In early 2022, Dr. Robin Breault will be presenting an assessment of specific workforce gaps that will inform an implementation strategy. The panel – with its considerable experience in workforce development – will assist in identifying service providers and support, such as through the Santa Cruz County Provisional Community College and the Santa Cruz County Workforce Investment Opportunity Act One Stop office.

This strategy could benefit not only South32, but also the produce industry in Santa Cruz County. However, as the partners move forward, the panel is mindful that mining may be recruiting from the produce industry employment base because mining jobs typically pay more. One solution is for industries to partner in logistics recruitment. Logistics is a crossover industry sector in Santa Cruz County that could serve both mining and South32. For example, transportation and warehousing are involved, and both require secure/clean rooms and safety protocols. Training programs and resources could be developed that benefit both sectors.

Workforce planning for South32 also will include developing a procurement strategy for hiring local contractors. In the coming year, a subcommittee of the panel could be established to help with procurement, as South32 creates and deploys a procurement plan to hire contractors locally.

Appendix A
Panelists, their Networks and Communities Represented

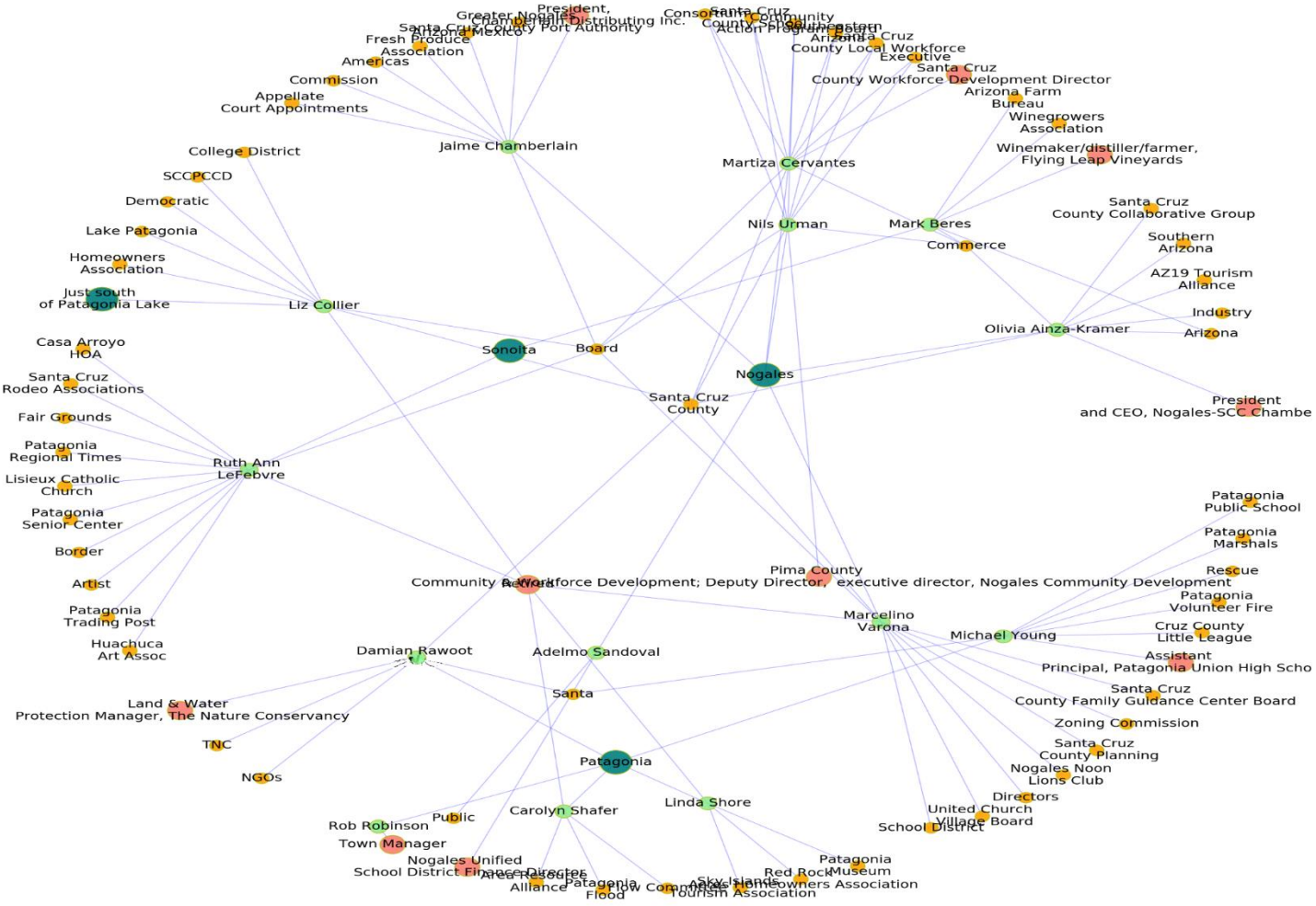
Panelists and Affiliations - 4/14/21

Panelist	Employment	Affiliations	Community
1. Olivia Ainza-Kramer	President and CEO, Nogales-SCC Chamber of Commerce	Arizona Chamber of Commerce and Industry, Arizona @ Work Santa Cruz County, AZ19 Tourism Alliance, Southern Arizona Chamber Association, Santa Cruz County Collaborative Group	Nogales
2. Mark Beres	Winemaker/distiller/farmer, Flying Leap Vineyards	Arizona Winegrowers Association, Arizona Farm Bureau, Sonoita/Elgin Chamber of Commerce	Sonoita/Elgin
3. Martiza Cervantes	Santa Cruz County Workforce Development Director	Executive Director for the Santa Cruz County Local Workforce Development Board, Southeastern Arizona Community Action Program Board, Nogales- Santa Cruz County Chamber of Commerce, Santa Cruz County School Superintendent's Consortium	Nogales
4. Jaime Chamberlain	President, Chamberlain Distributing Inc (Fresh produce brokerage)	Chairman of the Board of Directors of the Greater Nogales-Santa Cruz County Port Authority, Executive Board of Directors of the Arizona Mexico Commission, Past Chairman of the Board of Directors of the Fresh Produce Association of the Americas, Commission of Appellate Court Appointments, Independent Redistricting Commission search committee	Nogales
5. Liz Collier	Retired	Governing board of Santa Cruz County Provisional Community College District (SCCPCCD), Vice-Chair of the SCCPCCD, Democratic Precinct Captain for the Lake Patagonia Community and on the board of the Lake Patagonia Community Homeowners Association	Just south of Patagonia Lake
6. Ruth Ann LeFebvre	Retired	Board director for Casa Arroyo HOA, Member Santa Cruz Rodeo Associations (Fair Grounds in Sonoita), Contributor to Patagonia Regional Times, Member St Therese of Lisieux Catholic Church, Patagonia Senior Center, Voice From the Border, Artist - Patagonia Trading Post, Huachuca Art Association	Sonoita
7. Damian Rawoot	Land & Water Protection Manager, The Nature Conservancy	Manages many of TNC's collaborative relationships across Santa Cruz County including with other NGOs, agencies and private landowners members, member of group organizing economic study focused on the nature-based economy in Santa Cruz County	Patagonia
8. Rob Robinson	Town Manager	Town of Patagonia and ad hoc member of all town committees	Patagonia
9. Adelmo Sandoval	Nogales Unified School District Finance Director	Public school district	Nogales
10. Carolyn Shafer	Retired	Patagonia Area Resource Alliance and Town of Patagonia Flood & Flow Committee	Patagonia
11. Linda Shore	Retired	President of the Sky Islands Tourism Association, President of the Red Rock Acres Homeowners Association, Board of the Patagonia Museum, serving as curator	Patagonia
12. Nils Urman	Pima County Community & Workforce Development Deputy Director, Executive Director, Nogales Community Development	Executive Director for the Santa Cruz County Local Workforce Development Board, Southeastern Arizona Community Action Program Board, Nogales- Santa Cruz County Chamber of Commerce, Santa Cruz County School Superintendent's Consortium	Nogales
13. Marcelino Varona	Retired	Nogales Unified School District and Santa Cruz County Provisional Community College Governing Boards. Member of the United Church Village Board of Directors. Member of the Nogales Noon Lions Club and the Santa Cruz County Planning and Zoning Commission, Member of the Santa Cruz County Family Guidance Center Board of Directors	Nogales
14. Michael Young	Assistant Principal, Patagonia Union High School	Santa Cruz County Little League board; Patagonia Volunteer Fire & Rescue & Patagonia Marshals Office Patagonia Public School	Patagonia

Appendix A

Panelists, their Networks and Communities Represented

Hermosa Advisory Panelists: Community Networks 4/4/21



Appendix A
Panelists, their Networks and Communities Represented

List of Panelists and Affiliations at year end - 12/2021

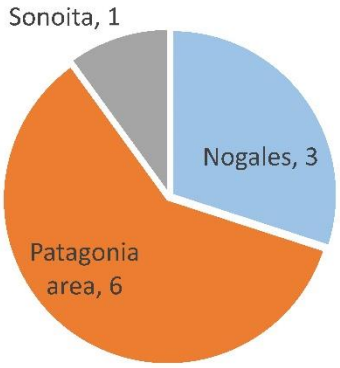
Panelist	Employment	Affiliations	Community
1. Olivia Ainza-Kramer	President and CEO, Nogales-SCC Chamber of Commerce	Arizona Chamber of Commerce and Industry, Arizona @ Work Santa Cruz County, AZ19 Tourism Alliance, Southern Arizona Chamber Association, Santa Cruz County Collaborative Group	Nogales
2. Martiza Cervantes	Santa Cruz County Workforce Development Director	Executive Director for the Santa Cruz County Local Workforce Development Board, Southeastern Arizona Community Action Program Board, Nogales- Santa Cruz County Chamber of Commerce, Santa Cruz County School Superintendent's Consortium	Nogales
3. Liz Collier	Retired	Governing board of Santa Cruz County Provisional Community College District (SCCPCCD), Vice-Chair of the SCCPCCD, Democratic Precinct Captain for the Lake Patagonia Community and on the board of the Lake Patagonia Community Homeowners Association	Just south of Patagonia Lake
4. Ruth Ann LeFebvre	Retired	Board director for Casa Arroyo HOA, Member Santa Cruz Rodeo Associations (Fair Grounds in Sonoita), Contributor to Patagonia Regional Times, Member St Therese of Lisieux Catholic Church, Patagonia Senior Center, Voice From the Border, Artist - Patagonia Trading Post, Huachuca Art Association	Sonoita
5. Damian Rawoot	Land & Water Protection Manager, The Nature Conservancy	Manages many of TNC's collaborative relationships across Santa Cruz County including with other NGOs, agencies and private landowners members, member of group organizing economic study focused on the nature-based economy in Santa Cruz County	Patagonia
6. Gerry Isaac	Owner, Stage Shop Inn, Patagonia	Town of Patagonia Planning and Zoning Commission chair; past president and treasurer of the Sky Islands Tourism Association, Current Board Member of the Santa Cruz Foundation for the Performing Arts	Patagonia
7. Carolyn Shafer	Retired	Patagonia Area Resource Alliance and Town of Patagonia Flood & Flow Committee	Patagonia
8. Linda Shore	Retired	President of the Sky Islands Tourism Association, President of the Red Rock Acres Homeowners Association, Board of the Patagonia Museum, serving as curator	Patagonia
9. Marcelino Varona	Retired	Nogales Unified School District and Santa Cruz County Provisional Community College Governing Boards. Member of the United Church Village Board of Directors. Member of the Nogales Noon Lions Club and the Santa Cruz County Planning and Zoning Commission, Member of the Santa Cruz County Family Guidance Center Board of Directors	Nogales
10. Michael Young	Assistant Principal, Patagonia Union High School	Santa Cruz County Little League board; Patagonia Volunteer Fire & Rescue & Patagonia Marshals Office Patagonia Public School	Patagonia

Appendix A
Panelists, their Networks and Communities Represented

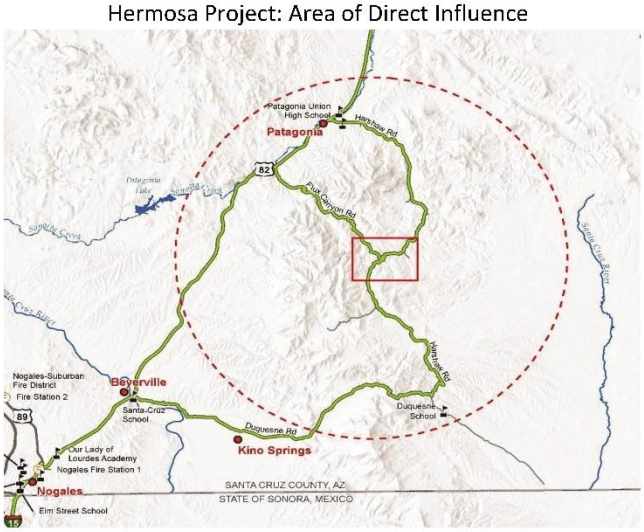
Hermosa Advisory Panelists, By Community as of 12/2021

Population

Nogales = 20,031
Patagonia = 864
Sonoita = 864
Elgin = 91



Hermosa Project: Area of Direct Influence



Source: ERM, 2019

Appendix B

Santa Cruz County Advisory Panel on the South 32 Hermosa Project Charter

TERMS OF REFERENCE

Section 1- Purpose of the Panel

South32 is committed to promoting the well-being of the Santa Cruz County, Arizona community and understanding community needs and concerns during the early stages of studying the potential for an underground mine development known as the Hermosa Project about six miles southeast of Patagonia. For this reason, South32 has contracted for a process by which a panel of community leaders with diverse perspectives and strong networks will:

1) Advise South32 on aspects of their project development that impact communities in Santa Cruz County, Arizona; and
2) Identify goals and priorities that could benefit both the larger community and South32

Section 2 - Roles of the Advisory Panel

The key roles of panelists are to:

1) Facilitate communication between the community and South32
2) Discuss and explore community impacts related to the Hermosa operation
3) Enable issues or questions to be raised and addressed that are relevant to the local community as it relates to impacts of the operation
4) Share the findings and discussions from the panel with the community, including groups where panelists have strong connections and networks
5) Guide, change and improve the way that South 32 engages with the community (Santa Cruz County), including recommending ideas to ensure those impacted have the opportunity to benefit from the project
6) Provide advice and recommendations on aspects of the project that reflect values held by the community (Santa Cruz County)

Section 3 – Responsibilities of Panelists

Key responsibilities are to:

1) Attend all scheduled meetings (or provide an excused absence prior to the meeting if unable to attend)
2) Be willing to contribute constructively in all aspects, from planning, meeting participation and evaluations

Panelists selected for this process agreed at their first meeting in April 2021 they would like to participate in ways where their work is:

- Focused, structured and time effective (purposeful, not a “marketing” exercise)
- Respectful of each other
- Engages all panelists in voicing concerns
- Mindful, kind and honest
- Open to diverse voices
- Productive, with conversations producing action with concrete outcomes

Section 4 – Structure of the Panel

The Advisory Panel is to have a membership of up to 14 residents.

Panelists are expected to make a minimum one year commitment to the panel. The expected duration of the Advisory Panel is for at least three years, with the intent to extend through the life of the project operation and depending on community interest.

Along with the community members, at least one South32 staff representative will attend meetings, except when the panel excuses the representative. The staff representative is responsible for the community facets of the business. As appropriate, other company representatives and/or consultants will be invited as guests to address a specific topic or area or where they have expertise. One meeting/year will be held without South32 staff being present.

Meetings are facilitated by a third-party consultant external to South32. The consultant is paid for by South32, with panel approval. All members are invited to review the facilitator's performance. The facilitator provides administrative support for the meetings including minute taking, distribution of minutes and issuing of meeting invitations to members/other invited speakers. Meeting minutes will be posted on the South32 website.

As an advisory panel established by South32, the company provides required materials required for each meeting, including background information on the topics as required and a meal and/or refreshments to panelists. For site visits, South32 will provide personal protective equipment along with transport if required.

Section 5 - Membership

The Advisory Panel is a forum of interested residents selected by the third-party consultant to provide a broad and balanced membership.

Members of the Panel have no legal liability or operational responsibility.

a. Membership guidelines:

1. Members of the panel are residents of Santa Cruz County and/or directly represent organizations with significant property or business holdings in the county.
2. Panelists have given voluntarily of their time, along with representatives of South 32's Hermosa Project and its consultants.
3. Members are associated with a community based group/s to enable information to be disseminated with and views sought from other community groups within the area.
4. Members have an interest in community activities.
5. Members have good local networks to share and gather information.
6. Members will miss no more than three meetings each year.

b. New members

In the event that new members are required, the process for new members shall be as follows:

- Invitations to be provided to all Santa Cruz County residents by South 32

- Applicants are to complete the SCC Advisory Panel on the S32 Hermosa Project Expression of Interest form
- Completed applications are to be returned to the facilitator
- Shortlisted applicants will be interviewed by the facilitator according to selection criteria indicated in the expression of interest form
- Final decision of successful applicants made
- Applicants to be advised in writing by the facilitator whether their application was/was not successful
- Successful applicants to be invited to join the Advisory Panel.

c. Termination of membership

If a member no longer wishes to be a part of the group, written notice shall be provided at least two weeks prior to the next scheduled meeting**.**

Section 6: Meeting, event and site visit arrangements and structure

a. Meeting date, times and location

Meetings are generally two hours long are proposed for the third Wednesday of the month (dependent on member availability).

In addition, the panel may make site visits to the Hermosa Project or take field trips to learn about issues relevant to their work; additional meetings may be convened to discuss any matter warranting urgent consideration.

b. Meeting agendas

A draft agenda will be distributed to members at least one week prior to the scheduled meeting. Members are encouraged to add issues, questions or suggestions. The agenda will be finalized one day before the meeting.

Standard agenda items are:

1. Welcome and introductions
2. Excused Absences
3. Acceptance of previous minutes
4. Actions arising from previous minutes
5. Action Items for panel
6. Community questions for the panel
7. Hermosa Project Update if requested
8. Meeting close

Any items raised during the meeting not included on the agenda may be deferred to the following meeting if information needs to be obtained or personnel present are unable to provide an informed response. No question will remain unanswered.

c. Meeting minutes

Minutes will be taken at each meeting. The minutes will be recorded by the consultant reviewed by all members.

The minutes of the meeting will be distributed to members within 7 days of the next meeting. The minutes will be in draft format until approved by members at the next meeting at which time the minutes will be finalized.

The final minutes become a public document available to all interested parties. Copies will be provided to all members and posted on South32's website.

d. Meeting quorum

Two thirds of the Advisory Panel (excluding South 32's representation) constitute a quorum for the transaction of the business of a meeting. Unless a quorum is present and if within half an hour after the time appointed for the meeting a quorum is not present, the meeting stands adjourned to a time appointed by the facilitator.

e. Meeting voting and decisions

Each community member present at a meeting of the Advisory Panel is entitled to one vote. South 32 is entitled to one vote only. Decisions requiring a vote -- that is where agreement or consensus cannot be reached – requires two thirds of all panel members to carry the issue.

Each member is required to declare their pecuniary and non-pecuniary interests prior to any vote.

f. Site visits

Site visits may be held for members of the Advisory Panel and these will all be optional to attend. When members participate on in site visits, no video, photographic or audio recording is to be undertaken without prior approval from the site manager / tour leader. Prior to any site visit the facilitator, on behalf of the Group will ask in writing for approval to take photographs and will advise members of the decision before the visit.

Information learned at the site visit is like that provided at regular meetings and able to be shared with the broader community.

g. Public Statements

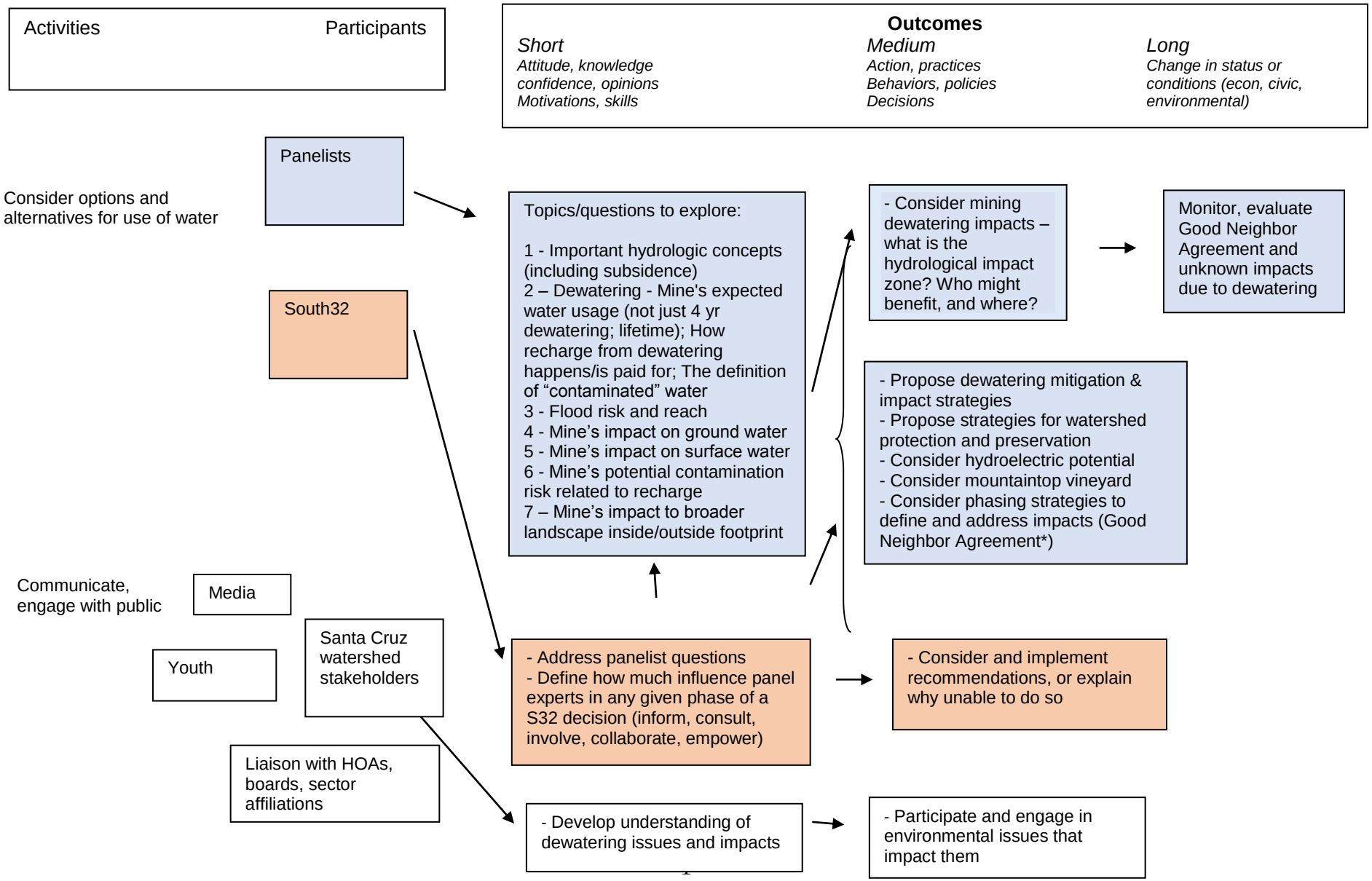
Should the Advisory Panel wish to issue a press release or make a statement to the media on behalf of the members, this would need to be unanimously agreed to by the members. Any statement or press release would be drafted by the facilitator and provided to all Panel members and South 32 for review and agreement.

Individual Panel members may make comments to the media or in public forums on behalf of themselves or the stakeholders they represent, but not on behalf of the Panel.

Appendix C

Process Used to Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge

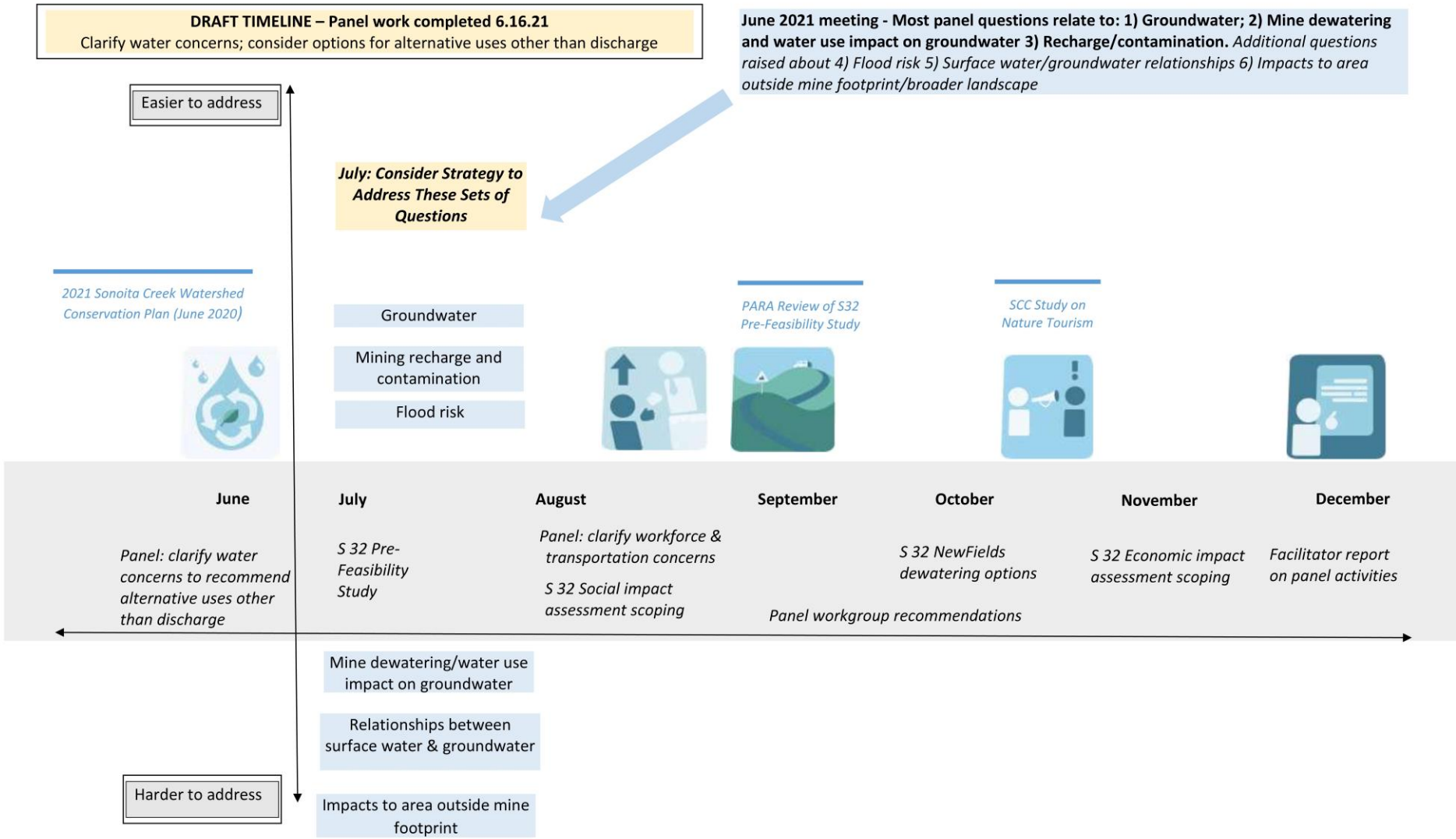
In May, the panel worked in groups to prioritize questions related to water related impacts that were most important to explore before making recommendations to South32. Dr. Donelson created the **water issues decision map** from the feedback below. It was used to frame deeper conversations on these issues in June.



Appendix C

Process Used to Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge

In June, the panel refined the map produced in May. Dr. Donelson organized questions (shown in pages 3-4 and organized them in a timeline. Icons represent activities panelists were undertaking; items for which South32 is responsible are also shown. (The timeline shown below, however, was delayed until 2022 due to later than expected release of the South32 prefeasibility study.) These questions guided Dr. Ty Ferre's preliminary scope of work (shown in Appendix E).



Appendix C

Process Used to Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge

SCC Advisory Panel on the South32 Hermosa Project
Questions Raised on 6.16.21

To make decisions for **alternative uses of water other than discharge**, panelists ranked and rated what they most wanted to know. Groundwater-dewatering-recharge questions are grouped together as most highly ranked questions below (p 1); additional important questions are grouped on p 2.

Groundwater

- If no mining occurs, how will groundwater volume change, or will it?
- Are we out of groundwater?
- How much groundwater is there?
- Where does groundwater go?
- How much groundwater will naturally restore, or will it?
- How much groundwater exists at the mine's property?
- What are the geologic structures that determine or limit Santa Cruz County groundwater?
- What is the estimated life of our groundwater supply in Santa Cruz County?
- What are the pressures on our groundwater supply?

Mine dewatering and water use impact on groundwater

- How much of the groundwater will South32's mining operations be removing annually?
- What method of dewatering is South32 going to use?
- How (or do) mining operations impact availability around the area?
- How far from mining operations is groundwater volume affected?
- What are the water plans of the mine – near term to long term for dewatering and water consumption?
- Will the groundwater recharge after dewatering stops?
- If drought persists for 5 years, how will groundwater at the mine site be impacted by mining operations?
- If drought persists for 20 years, will the amount of groundwater at the mine site go down if mining operations happen? If so, by how much?

Recharge/contamination

- With recharge, will water need to be piped back to the original site of discharge?
- What contaminants come in recharge water?
- What level are the contaminants in recharge water?
- What impact could contaminants have impacts on wildlife and fauna?

Appendix C

Process Used to Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge

Other important questions raised:

Potential Flood Risk:

- How will flood risks impact mine water usage?
- How does flood risk from the mine's dewatering activities impact the local community?
- How do we know the flood impact (on Patagonia) when different studies report different impacts?

Surface water/groundwater relationships

- What is the difference between surface and groundwater?
- Will mine discharge affect the quality of surface water?
- How do we know the impact of both surface and groundwater together, since both are connected?

Impacts to area outside mine footprint/landscape

- Are there long term consequences to endangered species due to discharge? If so, what wildlife species would be affected?

Other recommendations

- Prepare a bibliography of readings on hydrology (basic, intermediate, advanced).

Attachment D – Workforce Needs, Opportunities and Unknowns

In August and September, panelists identified key workforce issues and shared their expertise. In October, the panel explored the following questions: "What assets and gaps in the workforce programs exist?" and "What can we realistically do about these workforce issues into the future?" Dr. Breault and Dr. Donelson organized the panel's ideas into the following matrix, which is informing Dr. Breault's scope of work: assessing workforce gaps and developing a skills "crosswalk" to inform South32 workforce development strategy.

1. What do we know?

K-12 Pathways	Post Secondary Pathways
● Students are worried about debt -- college etc. ● We have opportunities for students who aren't college-bound, but can't get them to come and participate in them Need more ● Funding for meaningful workforce training that young people want	● We don't have a big workforce to work with (i.e construction importing workers) We ● don't know the specific skills S32, or retail, or produce, logistics, and construction are looking for ● Go through the specific job descriptions to ID specific skills. Robotics/remote operators/maintenance ● Pima has some programs SCC Provisional CC can pay to offer ● SCC is bound by expenditure limits ● SCC can't find qualified instructors--fully qualified retirees might be recruited

2. Concerns?

K-12 Pathways	Post Secondary Pathways
● How does the trend toward certifications impact K-12 learning? ● Make sure to keep balance and integrate between core learning (literacy, numeracy, etc) and CTE/technical training There isn't ● cultural buy-in for CTE and certifications	● ● We start "importing" people ● No schools ● Land use/housing - Martin Shore Indiana developer (Patagonia) ● Patagonia small lots 1 acre outside perimeter ● Land use changes in SCC - 4.3 /ac hsg on perimeter of Patagonia does not allow for affordable housing ● Infrastructure - Roadways ● Infrastructure - Broadband - there is not internet many places through the county, we lack internet at the college ● Will post secondary programs be available and affordable? ● How practical is it for the SCC college to offer detailed courses to benefit industry, the mine? ● Updating logistics course offerings

Attachment D – Workforce Needs, Opportunities and Unknowns

3. Opportunities?

K-12 Pathways	Post Secondary Pathways
• Pandemic helped families see value of schools and teachers more • Cybersecurity, technology, upcoming trends in digital jobs • Teacher expertise and development • Resources from industry to start earlier learning opportunities in school (i.e. junior high, etc) • Automotive • PCC connections • DE funding for teacher development ID • degrees and certification pathways between HS and college (i.e. DE/early college, certs, etc)	• How can the mine and other industry sectors provide funding /gaps for SCC expenditure limits? • Can S32 offer funding to help credential/ train retirees or others to teach at SCC? This is an opportunity to develop workforce throughout the region. • SCC can subcontract with schools; community colleges should not be building huge buildings, we need $ in contracting • Opportunity to outsource (SCC Prov) could focus on a few disciplines • Willing to buy a van to transport students to specific Pima offerings if needed • Explore digital infrastructure needs to be addressed by the community college

4. Unknowns?

K-12 Pathways	Post Secondary Pathways
• How do we keep topics like science courses (science) and integrate/offer CTE courses as well? • Where and how do we have students gain hands-on experience? • How (is it possible) can we adapt state course #s for funding to incorporate more experiential learning and training? • Specific needs for S32 workforce • How to engage IB, AP, honors students in considering new opportunities--how will they react?	• Mining is a big industry. Are they willing to pay more at entry level? • Job descriptions are a starting point - we need more detailed assessment of skills • Pay $ - would like to see seasonal / produce workers (with no healthcare) to have better opportunities and benefits • What is the potential impact to produce industry? How will they find workers? How will they handle competition?

Attachment D – Workforce Needs, Opportunities and Unknowns

5. Unknown Unknowns?

K-12 Pathways	Post Secondary Pathways
● What students are we targeting? ● How much do students know about mining or any other opportunity? What do they think? ● How to communicate transferability of skills to all stakeholders? ● What are the cross cutting skills?	● S32 job requires HS diploma ● Rest of jobs require specialized experience - where will these people come from? Is ● there a curriculum for mining? UA school of mines? ● Pima is co-locating/offering courses

6. Who else needs to be engaged?

K-12 Pathways	Post Secondary Pathways
● Need corporate engagement and funding if we are are training workers	● Representatives and engagement from core industries, retail, construction, produce, logistics, schools + local gov, chambers, etc. ● Wine industry ● Water issues

Appendix E

Scopes of Work of Consultants Supporting the Panel

Proposed Hydrologic Intermediary Activities

Ty Ferre, Distinguished Professor, Hydrology and Atmospheric Sciences, University of Arizona

Submitted August 2021

The panel has done an impressive amount of work in identifying and organizing their water-related interests. The critical first step required to ensure that their concerns are addressed in forthcoming technical studies is to make the appropriate links between the hydrologic system, the proposed activities that could impact that system, and the specific concerns of the panel. I propose the following activities with the goal of helping the panel to formulate a clear understanding of the hydrologic system – including an understanding of what is known and what is unknown – and an appreciation for how dewatering and recharge activities might impact that system. This initial effort is meant to establish foundational hydrogeologic understanding and a common language that the panel can use to ask technical questions regarding the proposed Newfields analyses related to underlying model assumptions, inclusion of decision-relevant predictions of interest, and quantitative uncertainty assessment.

The initial work will be divided into stages, to be completed in the following order.

1. Gather and ingest existing information regarding the hydrogeologic conceptual model of the area
    a. Review of existing documents provided by the panel
    b. Submit requests to South32 and their consultants for further information
    c. Prepare an information sheet that summarizes the current hydrogeologic conceptual model

2. Associate the panel's specific water-related concerns to hydrogeologic domains of knowledge and areas of analysis
    a. Review SCC Advisory Panel document listing concerns
    b. Follow up with the panel to clarify as needed
    c. Prepare a revised list that links the panel's concerns with the conceptual model information sheet
    d. Attend the September panel meeting to discuss these products.

3. Assist the panel with understanding and providing feedback on potential alternative/beneficial uses of dewatering water
    a. Review possible scenarios and discuss benefits, limitations or potential concerns related to each (similar to what was discussed at the May meeting with RIBs, agriculture/irrigation, holding ponds, etc.)
    b. Assist the panel with making a recommendation to support the work currently underway with Newfields
    c. Relate the panel's concerns to likely areas of uncertainty in the Newfields analyses
    d. Present a series of questions that would be technically meaningful to Newfields analysts and also interpretable by non-experts.
    e. Attend the October panel meeting to discuss these questions.

4. Present a Hydrogeology 101b discussion that augments the informational presentation given by South32 with emphasis on especially challenging aspects of the local hydrogeology.
    a. Identify the concepts that are most challenging to the panel while preparing the above documents
    b. Review the Hydrogeology 101 and 201 presentation slides and video
    c. Develop a short presentation that builds on the 101/201 presentation to address concepts that are unclear and to provide context regarding the scientific (un)certainty of key hydrologic concepts.

Appendix E
Scopes of Work of Consultants Supporting the Panel

Workforce Development Alignment - S32 Hermosa Advisory Panel
Submitted by Robin Breault, PhD
November 16, 2021

The October 20th Advisory Panel meeting identified key concerns, opportunities, and unknowns/questions regarding South32's workforce needs and its regional workforce impact. Across all areas (concerns, opportunities, and unknowns) themes emerged (see Figure 1).

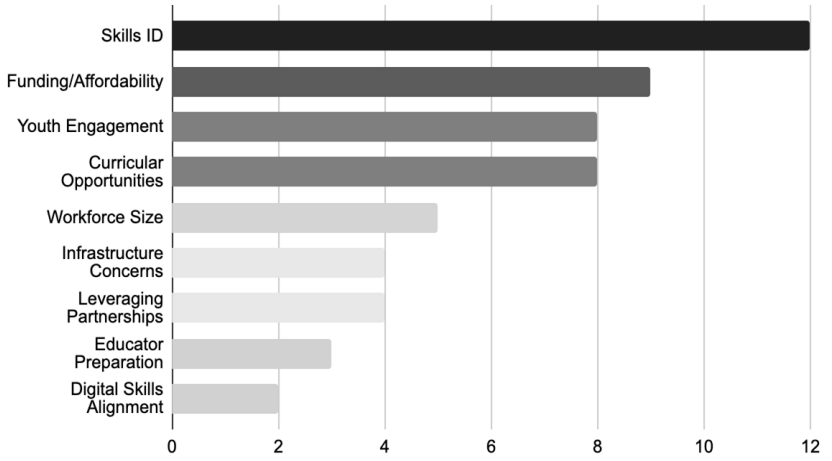


Figure 1 - Data Party Themes

The data indicate that the Panel has a clear interest in learning more about the alignment of skills, funding priorities, and curricular opportunities for workforce development (especially among youth). To this end, the activities listed below will compile information to assist the Panel in addressing the question: ***How might S32 job descriptions be crosswalked with workforce skills needed throughout the region?*** By addressing this question the Panel will be able to prioritize recommendations for South32's investment in local workforce development strategies.

The following activities and deliverables will be completed by mid-February 2022.

- Informational interviews with key stakeholders, including but limited to:
    - S 32 HR (goal: identify priority skills)
    - SCC Superintendent's Office (goal: identify aligned programs and funding priorities)
    - SCCPCCD (goal: identify aligned programs and funding priorities)
    - PCC Dean of Applied Technology (goal: identify aligned programs and opportunities)
    - Nogales Chamber (goal: identify priority skills)
    - WIOA (goal: identify aligned programs and opportunities)

- Overview of (existing and aspirational) HS programs, dual enrollment, and Community College degree offerings that align with South32 workforce needs, resulting in a draft of a one-page overview of aligned skills pathways.

- Presentation of findings to the Panel

Review of Effort as Hydrologic Intermediary – 9/21 through 12/21

Ty Ferre, Distinguished Professor, Hydrology and Atmospheric Sciences, University of Arizona

tyferre@gmail.com

My efforts on behalf of the panel have focused on: providing context for them to understand the roles and limitations of groundwater models for decision support; reviewing two existing models and developing an assessment of their treatment of flood risk in Harshaw Creek; and developing informational videos to explain fundamental hydrologic concepts that are relevant to their water resources concerns.

I attended my first panel meeting in Patagonia on September 15th, 2021. At that meeting, I spoke about the nature of hydrologic models. In particular, I explained that these models are highly simplified representations of highly complex systems. They require many assumptions regarding: the rate and timing of precipitation and/or recharge and the spatial distribution of subsurface hydrologic properties. These models are tuned, or calibrated, based on very limited data. In some cases, surface water flow rates are monitored often, but at relatively few locations. Subsurface measurements require wells, which are expensive to install, so information is usually very sparse in space and time. The result is that many different models can be constructed that 'fit' the available data. In other words, by altering the values of precipitation (recharge), evaporation, transpiration, and the subsurface hydraulic properties, a model that has structural errors or misconceptions can be made to fit the data acceptably well. The problem arises when this incorrect model is used to predict future conditions that are different than those that existed during the calibration period. In the current scenario, the mine is proposing to add a major stress to the system – pumping nonstop to dewater part of the subsurface and routing that water to the stream network. The compensations that were made to fit the past data can lead to errors in the predicted effects of these new stresses.

One approach to address this universal weakness of hydrologic models is to intentionally construct multiple models and to use them jointly for planning. Ideally, the group of models should cover the range of key assumptions that are made during model construction. Then, the range of predictions made by the models is most likely to cover the range of plausible outcomes of the proposed activity. Under these conditions, a stakeholder can begin to assess whether outcomes of concern to them lie within the realm of possibility. Specifically, if none of the models predict an unacceptable outcome, then the stakeholders can support the activity confidently. If all of the models predict a problematic result, then they can oppose the action vigorously. The challenge arises when some models do and others do not predict unacceptable consequences of a proposed action. These cases require additional data collection to refine the model ensemble, as discussed in the proposed actions below.

One important and commonly overlooked aspect of hydrologic modeling is that there is no such thing as one perfect model of a system. This follows directly from the issues described above. The available data constrain the parameter values for any given model through calibration. But, in almost all cases, the predictions of interest cannot be measured directly; they require extrapolation from the data into the future for different applied stresses to the system (e.g. pumping for dewatering, increased

streamflow). Therefore, it is critical that models be constructed specifically to address the questions that are important to all involved parties. For example, a model that is developed to predict and plan for dewatering is unlikely to be suitable for predicting flooding from increased streamflow. Rather, the model must be constructed with clear intention to represent the processes that control the outcomes of interest. Some specific examples of how this applies to the Patagonia case are given below. But, the key takeaway is that it is critical for each stakeholder group to clearly identify their concerns before models are constructed for planning. Then, the stakeholder groups must have sufficiently qualified representation to ensure that the models that are constructed are appropriate to address their concerns. Finally, they should also have expert input into the model construction and calibration processes to ensure that the range of models that are constructed fully represent plausible conditions – especially those conditions that are most likely to lead to unacceptable results for the stakeholders. The shorthand for these efforts is that stakeholders should be represented by advocacy models, which explore the space of reasonable models to identify plausible, problematic conditions. To reiterate, a collection of models (model ensemble) can only describe the probability of an outcome of concern if the ensemble explores the full range of plausible conditions. Too often, decisions are guided by a single model, developed to answer a different question, and calibrated to address the needs of one interested party to the exclusion of others.

In preparation for a panel meeting in Patagonia on November 17th, 2021, I reviewed two existing models, one prepared for South32 and the other prepared for PARA. Both models largely agreed on the impacts of pumping on groundwater levels. I propose to review these models in more detail, below. But, I initially focused on the analyses of impacts of added streamflow on flooding in Patagonia. The bottom line is that both models considered the added streamflow of 10 ft^3/s proposed by South32. After considering hydrogeologic impacts, both models essentially found that the increased streamflow at Patagonia would be approximately equal to the increased added flow. The PARA-sponsored model pointed out that sustained increased flow would fill more subsurface storage capacity, making the system more susceptible to flooding. But, the major difference in the reports was the base against which the added flow was compared. The South32 model assessed the impacts of the added flow only during extreme natural flooding events, for which the added flow was a very small fraction of the total. The PARA model considered all flow events, focusing on more frequent, smaller floods. As a result of this difference in perspective, the PARA model found much more impact from the added streamflow than the South32 model. My point to the panel was that, in this case, both modeling groups are highly respected and there is no reason to expect any bias. Rather, they were tasked with answering two different questions, so they found two different answers. If the panel had not presented their concerns and had them embodied in the PARA model, they would have been left with an analysis that seemed to address their concerns, but gave misleading results. Perhaps even more troubling is the fact that, at least in retrospect, neither of these models was really necessary to address concerns about flooding. The panel's interests would have been served by assuming that all of the added flow results in equivalent added flow at Patagonia. This analysis is, essentially, free. It can also be modified immediately if South32 decides to change their pumping rate. I propose to identify simple models to use for basic guidance as part of a Good Neighbor Agreement.

In addition to the two presentations that I gave to the panel, I enlisted graduate students in my Fundamentals of Subsurface Hydrology class to produce 12 videos on basic hydrologic concepts. The topics were presented as an ordered set of 5-minute videos on:

1. How can you determine how much water is in an aquifer and how much of that is available for use? (Sydney)
2. How do geologic structures impact groundwater movement? (Zida)
3. How much water that is pumped for dewatering a mine is removed from the hydrologic system? (Kevin)
4. How does pumping in one well affect water availability in another well? What controls the extent, timing, and duration of that impact? (Matt)
5. What is the difference between surface water and groundwater? How are they connected? (Jetal)
6. What is natural recharge and what controls it? (Patricia)
7. How does an aquifer recover after pumping stops? (Hannah)
8. How is managed aquifer recharge similar to and different than natural recharge? (Danielle)
9. How do contaminants in surface water reach groundwater and what controls the travel time? (Rachel)
10. How do subsurface hydrogeologic conditions affect the likelihood of surface water flooding? (Wenqian)
11. How can drought be connected to changes in water levels in a shallow aquifer? (Mica)
12. How can you add considerations of future climate changes into the assessment of water availability in an area? (David)

The topics were chosen to address questions that the panel had raised in previous meetings. Then, each student produced an initial video. I helped the student to identify content gaps or errors and the students reviewed one another's videos for presentation quality. A set of revised videos was delivered to a subcommittee of the panel, who reviewed them and provided feedback. The students will finalize their videos and I will provide them to the committee so that they can use them as references to solidify their understanding of key concepts as they move forward in their decision making. In addition to these videos, I produced a video (Marcelino Presentation) that specifically covered the concept of drawdown in the context of the South32 proposal.

Proposed Scope of Work

Hermosa Mine, South32, and the Town of Patagonia
David Eduardo Morales under supervision of
Dr. Ty Ferre, Distinguished Professor, Hydrology and Atmospheric Sciences, University of Arizona

1. Problem Statement

Good Neighbor Agreements (GNA) are legally binding agreements developed and agreed upon by a business and another party (usually neighborhood/community associations) to direct concerns and expectations surrounding the business's operations and potential impacts on the local community/environment.

In the case of the proposed Hermosa Project—owned and operated by Arizona Minerals Inc., a wholly owned subsidiary of South32 and located in the Patagonia Mountains, approximately 60 miles southeast of Tucson, AZ—concerned community members of Patagonia, AZ and Santa Cruz County are interested in learning how Good Neighbor Agreements have been used in other places in order to identify best practices/models. The panel is interested in understanding how agreements specifically relate to their current water, workforce and transportation concerns. For example, they include concerns about impact of potential higher flows in Harshaw and Sonoita Creeks as result of dewatering processes within the project.

A draft of initial questions is laid out in the deliverables section, but of primary concern is understanding how past GNAs have addressed uncertainty: both for potentially damaging impacts to the community/environment, and for commitments to local workforce development and procurement. GNAs are also of interest to the panel because of obligation borne by new parties should South32 sell its claim to another business.

2. Goals of the Agreement

The goal of this project is to educate the community members of Patagonia, AZ and Santa Cruz County on the manner and mechanisms of GNA provisions and approaches that could be implemented in their negotiations with South32. A literature review and interviews with various communities that have implemented long-standing GNAs, culminating in a summative report of findings and report, would inform South32 and the community panel with options and a summary of best practices to proceed with their own set of agreements.

3. Objectives of the Agreement/Deliverables

Task: Conduct a review of grey/peer-reviewed literature on Good Neighbor Agreements: their implementation, components and efficacy. These reports will be collected and organized according to thematic features with several keywords associated with each report compiled into a representative structure that outlines the connections among sources. These keywords will then inform an artificial intelligence (AI) crawler in order to identify novel, relevant articles missed in the manual search.

Deliverable: A comparative summary (and bibliography) of strongly associated reports on GNAs pulled from grey/peer-reviewed literature that relates targets of interest (e.g., water resources, workforce development, rights of nature).

Task: Contact and interview 5-6 communities with long-standing Good Neighbor Agreements. These interviews will seek to understand how agreements have addressed the following concerns:

- Where have GNAs been implemented?
- Do they involve legal instruments?

- What types of stakeholders are engaged?
- How do they address uncertainty?
- What areas of impact do they include? (i.e., workforce planning and environmental issues)
- How is the community (impacted) defined?
- Who has access to funds?
- Who is the agreement with?
- How effective are they, long term?
- Is the agreement binding, even if the company sells out to another interest?
- Do local government negotiated contracts with the company for public benefits also end up in the Good Neighbor Agreement "bucket"?

Deliverable: A body of current context for the identification of best practice recommendations as well as a network of national communities/stakeholders that could serve to guide the community of Patagonia, AZ in their conversations with South32.

Task: Write summative report of findings to propose provisions, legal instruments and issues of concern to community of Santa Cruz County.

Deliverable: This report will then be condensed into a PowerPoint presentation presented to the community at the end of the study.

4. Administration

A stipend ($2,500), with half paid at the beginning of the project, and half paid at the end.

5. Timeline

February 1-14, 2022: Initial (manual) literature review conducted, and possible communities contacted for interview.

February 15-28, 2022: Literature review continues as necessary. Primary keywords identified and preliminary application of AI crawler begins.

March 1-14, 2022: AI crawler applied to literature search. David and Ty regroup with Angie to narrow the range of agreements to consider as most relevant for Patagonia and the broader Santa Cruz County.

March 15, 2022: Patagonia community panel contacted to set a date for presentation of findings.

March 30, 2022: First draft of report submitted to Angie and Ty for review and feedback. All interviews completed, contingent on availability and willingness of community members to engage.

April 8, 2022: Second draft of report submitted to Angie and Ty for review and feedback.

April 15, 2022: Third draft of report and first draft presentation submitted to Angie and Ty for review and feedback.

April 22, 2022: Fourth draft of report (if needed) and second draft presentation submitted to Angie and Ty for review and feedback.

April 30-May 15, 2022: Final draft submitted. Presentation of findings given to community panel on preapproved date.

17 January 2022

South32 Limited
(Incorporated in Australia under the *Corporations Act 2001* (Cth))
(ACN 093 732 597)
ASX / LSE / JSE Share Code: S32 ADR: SOUHY
ISIN: AU000000S320
south32.net

HERMOSA PROJECT UPDATE

Conference call at 11.00am Australian Western Standard Time, details overleaf.

South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) (South32) is pleased to provide an update following completion of a pre-feasibility study (PFS) for the Taylor Deposit, which is the first development option at our 100% owned Hermosa project located in Arizona, USA.

The PFS results support Taylor's potential to be the first development of a multi-decade operation, establishing Hermosa as a globally significant producer of metals critical to a low carbon future, delivering attractive returns over multiple stages. An initial development case demonstrates a sustainable, highly productive zinc-lead-silver underground mine and conventional process plant, in the first quartile of the industry cost curve[1].

The Taylor Deposit will progress to a feasibility study, including work streams designed to unlock additional value by optimising operating and capital costs, extending the life of the resource and further assessing options identified to target a carbon neutral operation. Completion of the feasibility study and a final investment decision to construct Taylor are expected in mid CY23.

Separately, a scoping study[(a)] for the spatially linked Clark Deposit has confirmed the potential for a separate, integrated underground mining operation producing battery-grade manganese, as well as zinc and silver. Clark has the potential to underpin a second development stage at Hermosa, with future studies to consider the opportunity to integrate its development with Taylor, potentially unlocking further operating and capital efficiencies.

While exploration drilling to date has been focused on the Taylor and Clark Deposits, we have continued to complete surface geophysics, soil sampling and other exploration programs across our land package. This work has resulted in the definition of a highly prospective corridor including Taylor and Clark as well as the Peake and Flux exploration targets[(b)] which will be prioritised for drill testing in CY22.

Further details of the Taylor PFS are contained in the attached report and accompanying presentation.

South32 Chief Executive Officer, Graham Kerr said: "The Taylor Deposit provides an important first development option for our Hermosa project in Arizona, USA. The project has the potential to sustainably produce the metals critical for a low carbon future across multiple decades from different deposits.

"Completing the pre-feasibility study for the Taylor Deposit is an important milestone that demonstrates its potential to be a globally-significant and sustainable producer of base and precious metals in the industry's first cost quartile. Beyond Taylor, Clark offers the potential to realise further value from our investment in Hermosa through the production of battery-grade manganese, a mineral designated as critical in the United States.

"Additional exploration targets around Taylor and Clark are indicative of further upside while the broader land package contains highly prospective areas for polymetallic and copper mineralisation.

"We are designing the Taylor Deposit to be our first 'next generation mine', using automation and technology to minimise our impact on the environment and to target a carbon neutral operation in line with our goal of achieving net zero operational carbon emissions by 2050.

"The future development of Taylor provides a platform from which to realise Hermosa's immense potential. It will further strengthen our portfolio and align with the already substantial growth in production of metals critical to a low carbon future that we have embedded in the portfolio over the past six months."

[a] The references to the scoping study in respect of the Clark Deposit are to be read in conjunction with the cautionary statement in footnote 2 on page 18 of this announcement.
[b] The references to the Exploration Target for the Hermosa project (including Peake) are to be read in conjunction with the cautionary statement in footnote 3 on page 18 of this announcement.

Conference call

South32 will hold a conference call at 11.00am Australian Western Standard Time (2.00pm Australian Eastern Daylight Time) on 17 January 2022 to provide an update of the Hermosa project including Q&A, the details of which are as follows:

Conference ID

Please pre-register for this call at link.

Website

A replay of the conference call will be made available on the South32 website.

HERMOSA PROJECT

Hermosa is a polymetallic development option located in Santa Cruz County, Arizona, and is 100% owned by South32. It comprises the zinc-lead-silver Taylor sulphide deposit (Taylor Deposit), the zinc-manganese-silver Clark oxide deposit (Clark Deposit) and an extensive, highly prospective land package with the potential for further polymetallic and copper mineralisation. Hermosa is well located with excellent access to skilled people, services and transport logistics.

We have completed a PFS for the Taylor Deposit, our first development option at Hermosa. The Taylor Deposit is a large, carbonate replacement massive sulphide deposit which extends to a depth of approximately 1,200m over an approximate strike length of 2,500m and width of 1,900m. The Mineral Resource estimate for the Taylor Deposit is 138Mt, averaging 3.82% zinc, 4.25% lead and 81 g/t silver[4]. The deposit remains open at depth and laterally, offering further exploration potential.

The preferred mine design applied to the PFS is a dual shaft access mine which prioritises higher grade mineralisation early in the mine's life. The mining method is longhole open stoping, with the geometry of the orebody enabling the operation of multiple concurrent mining areas. This supports our assumption of an initial 22 year resource life[5] with high mining productivity. Ramp up to nameplate capacity[(c)] of up to 4.3 million tonnes per annum (Mtpa)[7] is expected to be achieved in a single stage. The process design applies a conventional sulphide ore flotation circuit producing separate zinc and lead concentrates with substantial silver credits.

In addition to the current Mineral Resource estimate for Taylor, we have defined an Exploration Target ranging from 10 to 95Mt[3] indicating the potential for further exploration upside. The exploration opportunity at Taylor includes depth and extensional opportunities as well as new prospects in proximity to the deposit. We have identified an Exploration Target at depth to the Taylor Deposit known as Peake, with initial drilling results returning copper and polymetallic mineralisation. Further drilling at Peake is planned in CY22.

Separately, we have completed a scoping study for the spatially linked Clark Deposit, confirming the potential for an underground mining operation producing battery-grade manganese, as well as zinc and silver. We are undertaking a PFS for Clark to increase our confidence in the mining and processing assumptions of a preferred development option and customer opportunities in the rapidly growing battery-grade manganese markets.

The Clark Deposit is interpreted as the upper oxidised, manganese-rich portion of the mineralised system that hosts Taylor. As we advance both our Taylor and Clark studies, we maintain the option to merge this work and assess an integrated underground mining operation. While such a scenario would require separate processing circuits to produce base and precious metals, and battery-grade manganese, an integrated development has the potential to unlock further operating and capital efficiencies.

Our third focus at Hermosa remains on unlocking value through exploration of our regional scale land package. Through the completion of surface geophysics, soil sampling, mapping and interpretation of recently acquired data, we have identified a highly prospective corridor which will be prioritised for future drilling. Within this corridor, we plan to drill the Flux prospect following receipt of required permits, anticipated in the second half of CY22. The Flux prospect is located down-dip of a historic mining area that has the potential for carbonate hosted, Taylor-like mineralisation[8].

STRATEGIC ALIGNMENT

We continue to actively reshape our portfolio for a low carbon future, investing in opportunities that increase our exposure to base and precious metals, with strong demand fundamentals and low carbon production intensity. The Taylor Deposit is our most advanced development option at the Hermosa project, which has the potential to provide a multi-decade platform at the operation that would further improve the Group's exposure to the metals required for the transition to a low carbon future.

[c] The references to all Production Targets and resultant financial forecast information in this announcement is to be read in conjunction with the cautionary statement in footnote 6 on page 18 of this announcement. The key facts and material assumptions to support the reasonable basis for this information is provided in Annexure 2 of this announcement.

SUSTAINABLE DEVELOPMENT

Sustainable development is at the heart of our purpose at South32 and forms an integral part of our strategy. The Taylor Deposit has been designed as our first "next generation mine" using automation and technology to drive efficiencies, minimise our impact and reduce carbon emissions. We have completed initial work programs and studies with respect to our communities, cultural heritage, environment and water, and any future development at Hermosa will be consistent with our approach to sustainable development.

The Taylor Deposit has been designed as a low-carbon operation, with the feasibility study to target the further potential to achieve carbon neutrality. This may be achieved through identified options to access 100% renewable energy from local providers, and the potential use of battery electric vehicles and underground equipment. The development of the Taylor Deposit would be consistent with our commitment to a 50% reduction in our operational carbon emissions by FY35 and net zero by 2050.

CAPITAL MANAGEMENT FRAMEWORK

A final investment decision for the Taylor Deposit and its potential tollgate to construction will be assessed within our unchanged capital management framework. Our framework, which prioritises investment in safe and reliable operations, an investment grade credit rating and returns to shareholders via our ordinary dividends, also seeks to establish and pursue options that create enduring value for shareholders, such as capital investments in new projects. Our preferred funding mechanism for any future developments at Hermosa will be consistent with our commitment to an investment grade credit rating through the cycle that supports our strong balance sheet.

PFS HIGHLIGHTS

The PFS results demonstrate Taylor's potential to be a globally significant producer of green metals critical to a low carbon future, in the first quartile of the industry cost curve. Taylor has the potential to underpin a regional scale opportunity at Hermosa, with ongoing activities to unlock additional value from the Clark Deposit and exploration opportunities across the regional land package.

- **Our initial development scenario outlines the potential for a large scale, highly productive underground mine**
  - Dual shaft access which prioritises higher grade ore in early years
  - Proposed mining method is low technical risk, employing longhole open stoping with paste backfill
  - Single stage ramp-up to nameplate production of up to 4.3Mtpa
  - Conventional sulphide ore flotation circuit
- **Potential to be a globally significant producer of metals for a low carbon future**
  - PFS estimates annual average production ~111kt zinc, ~138kt lead and ~7.3Moz silver (~280kt zinc equivalent (ZnEq)[9], with output ~20% higher across the years of steady state production[10]
  - Zinc is used in renewable energy infrastructure such as solar and wind for energy conversion and to protect against corrosion; silver is a key element used in solar panels; while lead demand is expected to be supported by its use in renewable energy storage systems
- **Potential for a low cost operation in the industry's first quartile**
  - Average Operating unit costs ~US$81/t ore milled (all-in sustaining cost (AISC)[11] ~US$(0.05)/lb ZnEq) benefitting from high underground productivity
- **Directs capital to establish a multi-decade base metals operation and platform for growth at Hermosa**
  - Project capital of ~US$1,230M (direct) and ~US$470M (indirect) to establish the first development option
  - Low sustaining capital ~US$40M per annum
  - Potential to realise capital efficiencies through an integrated development of Taylor and Clark
- **A large Mineral Resource with substantial exploration potential**
  - Taylor Deposit supports an initial resource life of ~22 years, and remains open at depth and laterally
  - 10 to 95Mt Exploration Target identified, indicating the potential for further exploration upside
  - Copper-lead-zinc-silver mineralisation intercepted at the proximal Peake prospect
- **Pursues the sustainable development of critical metals**
  - We are investing in local programs and partnerships that reflect the priorities of our communities
  - We are committed to working with Native American tribes to protect cultural resources
  - We have completed key biodiversity, ecosystem and water studies
  - We are pursuing a pathway to net zero carbon emissions with identified options for renewable energy

FURTHER OPPORTUNITIES TO UNLOCK VALUE

Reflecting the early stage nature of the project we have identified numerous opportunities to unlock further value at Taylor that will be pursued prior to a final investment decision. Opportunities identified include the potential to:

- Extend the resource life, which is underpinned by the current Taylor Mineral Resource estimate and does not include the further potential identified in our Exploration Target.
- Reduce operating costs through:
  - Further optimisation of the mining schedule, power consumption and comminution circuit;
  - Supplying smelters in the Americas to realise a material reduction in transport costs; and
  - Adopting emerging technologies and further automation opportunities, targeting enhanced productivity.
- Reduce capital costs through further optimisation of the shaft design, construction and procurement.
- Achieve a carbon neutral operation through access to 100% renewable energy from local suppliers.
- Integrate the underground development with the Clark Deposit.

NEXT STEPS

Taylor will now progress to a feasibility study which is targeted for completion in mid CY23. To maintain the preferred development path in the PFS, critical path items including construction and installation of infrastructure to support additional orebody dewatering is planned to commence in H2 FY22. Total pre-commitment capital expenditure associated with dewatering of approximately US$55M is expected in H2 FY22, with further investment expected in FY23. This expenditure is included in the growth capital estimate in Table 1 below.

The PFS assumes a single stage ramp-up to the nameplate production rate. Based on the PFS schedule, and subject to a final investment decision and receipt of required permits, shaft development is expected to commence in FY24. First production is targeted in FY27 with surface infrastructure, orebody access, initial production and tailings storage expected on patented lands which require state-based approvals. Surface disturbance and additional tailings storage on unpatented land will require completion of the National Environmental Policy Act (NEPA) process with the United States Forest Service (USFS). The project may benefit from the classification of metals found at Hermosa as critical minerals in the United States. Zinc is proposed to be added as a critical mineral by the U.S. Geological Survey while manganese (found at the Clark Deposit) already has this designation.

PFS SUMMARY RESULTS

Key PFS outcomes are summarised below. Given the project's early stage nature, the accuracy level in the PFS for operating costs and capital costs is -15% / +25%. The cost estimate has a base date of H1 FY22. Unless stated otherwise, currency is in US dollars (real) and units are in metric terms.

Table 1: Key PFS outcomes

Production	Nameplate production capacity	Mtpa	~4.3
	Resource life	Years	~22
	Head grades (average)	%, g/t	4.1% Zn, 4.5% Pb, 82 g/t Ag
	Annual payable zinc production (average / steady state[10])	kt	~111 / ~130
	Annual payable lead production (average / steady state)	kt	~138 / ~166
	Annual payable silver production (average / steady state)	Moz	~7.3 / ~8.7
	Annual payable ZnEq production[9] (average / steady state)	kt	**~280 / ~340**
Operating costs	Operating unit costs (per tonne ore milled)	US$/t	~81
	Operating unit costs (per lb ZnEq)	US$/lb ZnEq	~(0.71)
Capital expenditure	Direct growth capital	US$M	~1,230
	Indirect growth capital	US$M	~470
	Sustaining capital (annual average)	US$M	~40

TAYLOR DEPOSIT PFS

The PFS for the Taylor Deposit provides confirmation that it is a technically robust project that has the potential to deliver an attractive return on investment. The PFS is based on an underground zinc-lead-silver mine development using longhole open stoping and a conventional sulphide ore flotation circuit producing separate zinc and lead concentrates, with silver by-product credits. The preferred development scenario is based on a mining and processing rate of up to 4.3Mtpa, with a resource life of approximately 22 years.

The PFS was completed with input from consultants including Fluor for the process plant and on-site infrastructure, SRK Consulting for geological and technical reviews, Stantec for mining studies, NewFields for hydrogeology, Montgomery & Associates for dewatering and tailings, Black and Veatch, and BQE for water treatment design and CPE for off-site roads. The PFS has been subject to an independent peer review.

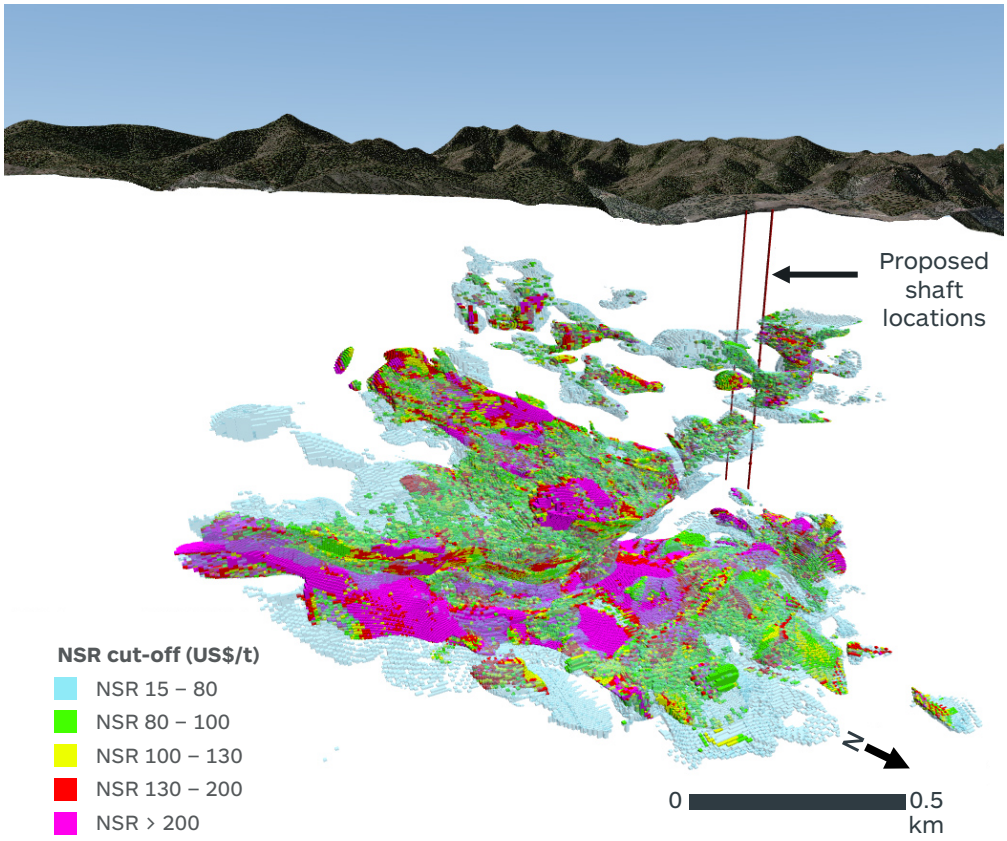
Mineral Resource estimate

The Taylor Deposit is a carbonate replacement style zinc-lead-silver massive sulphide deposit. It is hosted in Permian carbonates of the Pennsylvanian Naco Group of south-eastern Arizona. The Taylor Deposit comprises the upper Taylor sulphide (Taylor Mains) and lower Taylor deeps (Taylor Deeps) domains that have a general northerly dip of 30° and are separated by a low angle thrust fault.

The Taylor Mineral Resource estimate is reported in accordance with the JORC Code (2012) at 138Mt, averaging 3.82% zinc, 4.25% lead and 81 g/t silver with a contained 5.3Mt of zinc, 5.9Mt of lead and 360Moz of silver. The Mineral Resource estimate is reported using a net smelter return (NSR) cut-off value of US$80/t for material considered extractable by underground open stoping methods.

The Taylor Deposit has an approximate strike length of 2,500m and a width of 1,900m. The stacked profile of the thrusted host stratigraphy extends 1,200m from near-surface and is open at depth and laterally. It is modelled as one of the first carbonate replacement deposit occurrences in the region, with all geological and geochemical information acquired to date being consistent with this model.

Figure 1: Taylor Mineral Resource



Exploration Target

The Taylor Mineral Resource is within a highly prospective mineralised system and is open at depth and laterally, offering the potential for further exploration upside.

We have completed work aimed at developing an unconstrained, spatial view of the Exploration Target at the Taylor Deposit, considering extensional and near-mine exploration potential.

The Hermosa project has sufficient distribution of drill data to support evaluation of the size and quality of Exploration Targets. Tables of individual drill hole results are provided in Annexure 1 of this announcement, as well as a listing of the total number of holes and metres that support the assessment of the Exploration Target size and quality.

The tonnage represented in defining Exploration Targets is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. It should not be expected that the quality of the Exploration Targets is equivalent to that of the Mineral Resource.

Estimations were performed using resource range analysis, in which deterministic estimates of potential volumes and grades are made over a range of assumptions on continuity and extensions that are consistent with available data and generic models of carbonate replacement, skarn and vein styles of mineralisation.

The estimates are supported by exploration results from prospects in and around the Taylor Mineral Resource. These results are all of carbonate replacement, skarn, and vein styles of mineralisation and are currently explored at varying degrees of maturity and exploration drilling density.

Outcomes for the Exploration Target are provided in Table 2 below. The mid case Exploration Target is approximately 45Mt.

Table 2: Ranges for the Exploration Target for Taylor sulphide mineralisation (as at 31 December 2021)

	Low Case				Mid Case				High Case			
	Mt	% Zn	% Pb	g/t Ag	Mt	% Zn	% Pb	g/t Ag	Mt	% Zn	% Pb	g/t Ag
Sulphide	**10**	**3.8**	**4.2**	**81**	**45**	**3.4**	**3.9**	**82**	**95**	**3.6**	**4.0**	**79**

Notes:

a) Net smelter return cut-off (US$80/t): Input parameters for the NSR calculation are based on South32's long term forecasts for zinc, lead and silver pricing, haulage, treatment, shipping, handling and refining charges. Metallurgical recovery assumptions are 90% for zinc, 91% for lead, and 81% for silver.

b) All masses are reported as dry metric tonnes (dmt). All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.

Peake prospect

Our drilling programs at the Taylor Deposit have focused on improving confidence in the mine plan for the potential development, extending the resource and testing near-mine exploration prospects.

As part of our work on near-mine exploration targets, we have intersected the skarn hosted copper-lead-zinc-silver Peake prospect, located south of the Taylor Deposit at a depth of approximately 1,300-1,500m. To date, 13 drill holes have been completed at Peake, a deeper zone prospective for copper mineralisation, returning results that intersected copper, lead, zinc and silver. The geological model interpreted from these results and other recently acquired data indicates the potential for a continuous structural and lithology-controlled system connecting Taylor Deeps and Peake. Further exploration drilling is planned in CY22.

Selected exploration drilling results from the Peake prospect are shown in Table 3 below.

Table 3: Selected Peake drilling results

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-540	1279.2	1389.0	0.2% Cu	109.7	0.1	0.3	15	0.62
	Including							
	1303.6	1309.7	0.2% Cu	6.1	0.2	0.4	61	3.48
HDS-552	1308.2	1384.7	0.2% Cu	76.5	0.2	0.4	25	1.52
	Including							
	1309.9	1328.6	0.2% Cu	18.8	0.1	0.2	40	2.77
	And							
	1364.3	1384.7	0.2% Cu	20.4	0.1	0.3	37	2.44
HDS-661	1322.2	1374.6	0.2% Cu	52.4	0.1	1.1	105	1.73
	Including							
	1322.2	1346.0	0.2% Cu	23.8	0.1	0.8	81	3.32
	Including							
	1322.2	1330.1	0.2% Cu	7.9	0.1	0.4	81	7.89
	1386.8	1460.6	0.2% Cu	73.8	0.5	0.7	67	1.06
	Including							
	1399.6	1410.3	0.2% Cu	10.7	0.7	1.5	227	2.84
HDS-717	1456.6	1466.7	0.2% Cu	10.1	0.5	1.0	78	2.57

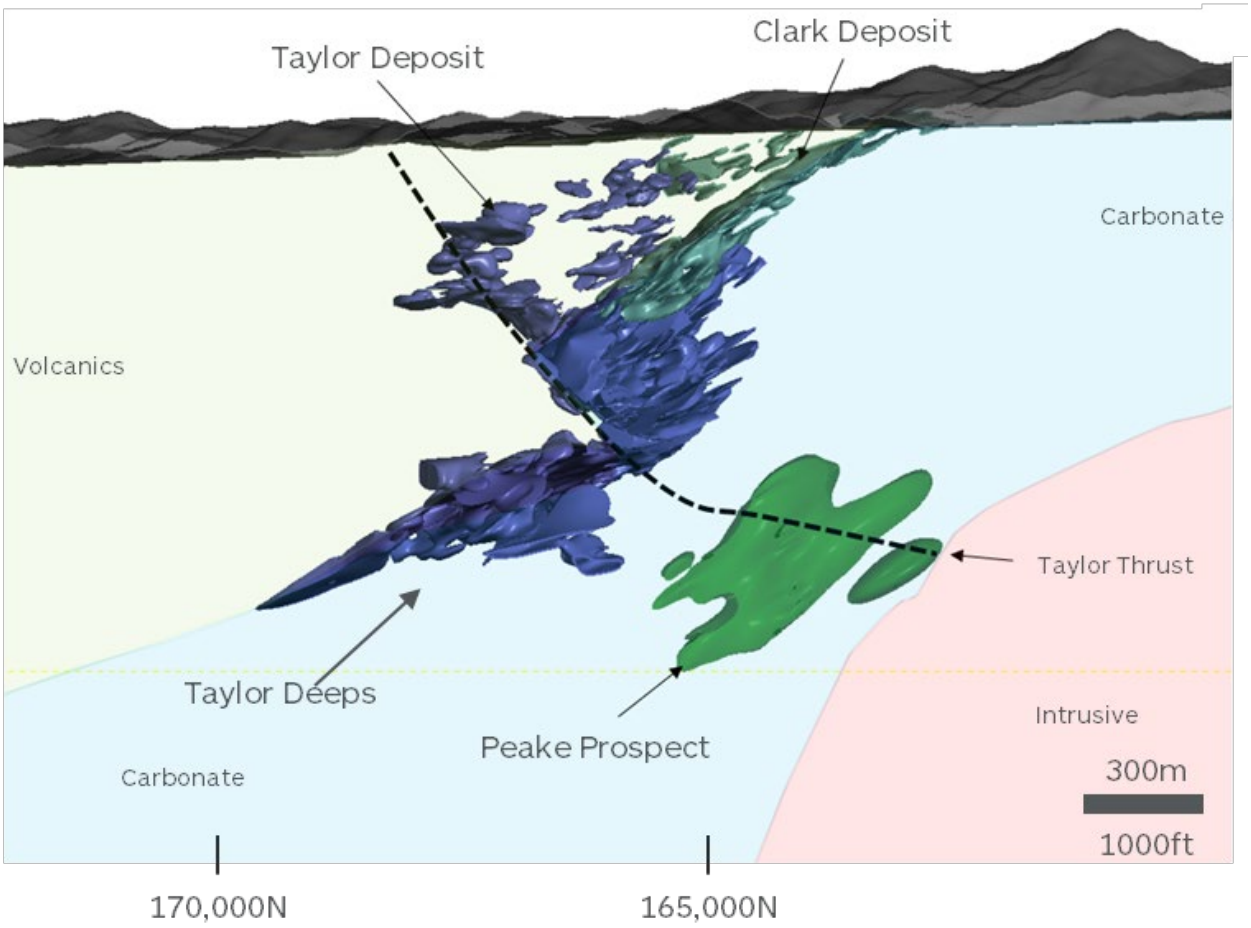
All exploration drilling results from the Peake prospect are shown in Table 4 below. All drill intersections used to define the Exploration Target are included in Annexure 1 of this announcement.

Table 4: All Peake drilling results

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-535	No significant intersection							
HDS-540	1279.2	1389.0	0.2% Cu	109.7	0.1	0.3	15	0.62
	Including							
	1303.6	1309.7	0.2% Cu	6.1	0.2	0.4	61	3.48
	1469.7	1488.0	0.2% Cu	18.3	0.0	0.0	10	0.63
HDS-545	No significant intersection							
HDS-549	1169.5	1175.6	0.2% Cu	6.1	1.5	1.6	312	1.92
HDS-551	1100.6	1111.6	0.2% Cu	11.0	0.0	0.2	10	0.39
	1254.9	1280.8	0.2% Cu	25.9	0.0	0.0	10	0.54
	1294.5	1372.8	0.2% Cu	78.3	0.0	0.1	10	0.51
HDS-552	1265.8	1273.9	0.2% Cu	8.1	0.2	0.5	27	0.39
	1308.2	1384.7	0.2% Cu	76.5	0.2	0.4	25	1.52

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
	Including							
	1309.9	1328.6	0.2% Cu	18.8	0.1	0.2	40	2.77
	And							
	1364.3	1384.7	0.2% Cu	20.4	0.1	0.3	37	2.44
	1478.9	1484.8	0.2% Cu	5.9	1.0	1.5	57	0.41
HDS-557	No significant intersection							
HDS-661	1298.4	1305.2	2% ZnEq	6.7	0.6	3.4	249	0.89
	1322.2	1374.6	0.2% Cu	52.4	0.1	1.1	105	1.73
	Including							
	1322.2	1346.0	0.2% Cu	23.8	0.1	0.8	81	3.32
	Including							
	1322.2	1330.1	0.2% Cu	7.9	0.1	0.4	81	7.89
	1386.8	1460.6	0.2% Cu	73.8	0.5	0.7	67	1.06
	Including							
	1399.6	1410.3	0.2% Cu	10.7	0.7	1.5	227	2.84
	And							
	1424.0	1446.9	0.2% Cu	22.9	0.5	0.6	45	1.24
	1555.1	1573.1	0.2% Cu	18	3.2	1.4	87	0.37
HDS-662	1316.4	1329.2	0.2% Cu	12.8	3.4	4.4	137	0.95
	1540.8	1546.7	2% ZnEq	5.9	5.9	2.1	250	0.45
HDS-663	1580.1	1591.8	0.2% Cu	11.7	0.1	0.0	16	0.95
	1615.9	1651.1	0.2% Cu	35.2	1.1	0.1	27	0.56
HDS-691	1343.6	1353.6	2% ZnEq	10.1	3.8	3.5	61	0.47
	1384.7	1395.4	0.2% Cu	10.7	2.7	2.9	38	1.03
	1405.9	1415.2	0.2% Cu	9.3	0.5	0.7	11	0.26
	1421.3	1452.1	0.2% Cu	30.8	0.7	0.8	22	0.59
	1463.6	1509.7	0.2% Cu	46.0	0.4	0.5	21	0.43
	1540.6	1549.3	0.2% Cu	8.7	0.3	0.9	51	0.61
	1563.9	1581.3	0.2% Cu	17.4	0.2	0.2	23	0.55
	1662.7	1677.9	0.2% Cu	15.2	2.8	1.1	155	1.19
	1683.4	1692.6	2% ZnEq	9.1	1.5	0.3	45	0.13
	1732.0	1735.2	2% ZnEq	3.2	6.2	0.3	107	0.18
	1994.6	1997.4	2% ZnEq	2.7	1.7	0.3	54	0.08
HDS-717	1065.3	1072.4	0.2% Cu	7.2	3.5	2.7	22	0.21
	1306.1	1318.3	0.2% Cu	12.2	1.8	1.8	63	0.82
	1444.1	1466.7	0.2% Cu	22.6	1.7	1.7	46	1.38
	Including							
	1456.6	1466.7	0.2% Cu	10.1	0.5	1.0	78	2.57
	1517.9	1522.2	2% ZnEq	4.3	3.0	1.8	49	0.03
	1718.6	1727.0	0.2% Cu	8.4	1.0	0.1	39	1.99
	1754.1	1763.3	2% ZnEq	9.1	1.4	0.5	42	0.13
HDS-763	1429.8	1439.6	2% ZnEq	9.8	2.3	0.1	3	0.02

Figure 2: Peake prospect



Mining

The PFS design for Taylor is a dual shaft mine which prioritises early access to higher grade mineralisation, supporting ZnEq average grades of approximately 12%[9] in the first five years of the mine plan. The proposed mining method, longhole open stoping, maximises productivity and enables a single stage ramp-up to our preferred development scenario of up to 4.3Mtpa. In the PFS schedule, shaft development is expected to commence in FY24 with first production targeted in FY27 and nameplate production in FY30.

Ore is expected to be mined in an optimised sequence concurrently across four independent mining areas, crushed underground and hoisted to the surface for processing. The mine design contemplates two shaft stations, one for logistics and access, and the other for material handling. The primary haulage material handling level is expected to be located at a depth of approximately 800m.

The operation would be largely resourced with a local owner-operator workforce, with a mining fleet consisting of jumbo drills, rock bolters, production drills, load, haul and dump machines and haulage trucks. Taylor's feasibility study will evaluate the potential use of battery electric underground equipment and trucks within the mining fleet, bringing further efficiency benefits, reducing diesel consumption and carbon emissions.

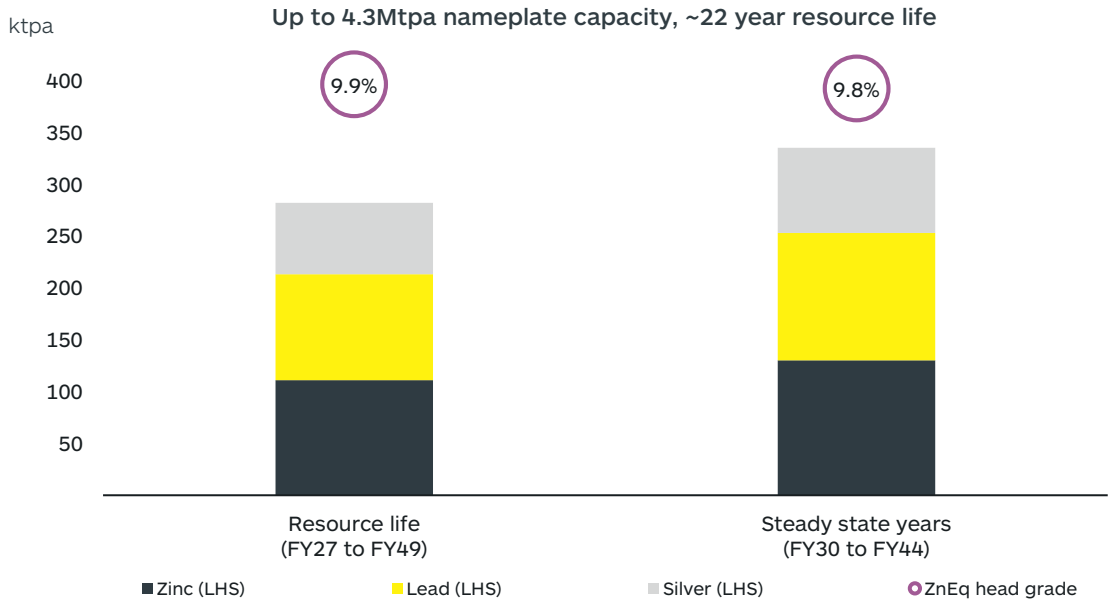
Processing

The PFS process plant design is based on a sulphide ore flotation circuit to produce separate zinc and lead concentrates, with silver by-product credits. The flowsheet adheres to conventional principles with a primary crusher, crushed ore bins, comminution circuit, sequential flotation circuit, thickening and filtration. Tailings are processed by either filtration and drystacking, or by converting to paste and returning them underground. Approximately half of the planned tailings will be sent underground as paste fill, reducing the surface environmental footprint.

Pre-flotation and pre-float concentrate cleaning steps have been included in the plant design to prevent magnesium oxide and talc from affecting flotation performance and concentrate quality. Jameson cell technology is proposed to be used in place of some traditional mechanical flotation cells to enhance recoveries. Once filtered, concentrate would be loaded directly into specialised bulk containers.

The PFS processing facility has design recoveries of 90% for zinc and 91% for lead, and target concentrate grades of 53% for zinc and 70% for lead. Silver primarily reports to the lead concentrate, with a design recovery of 81%. The zinc concentrate is considered mid-grade with relatively high silver content for zinc, and the lead concentrate is considered high-grade. Indicative production rates in the PFS are shown in Figure 3.

Figure 3: Payable ZnEq production and head grade

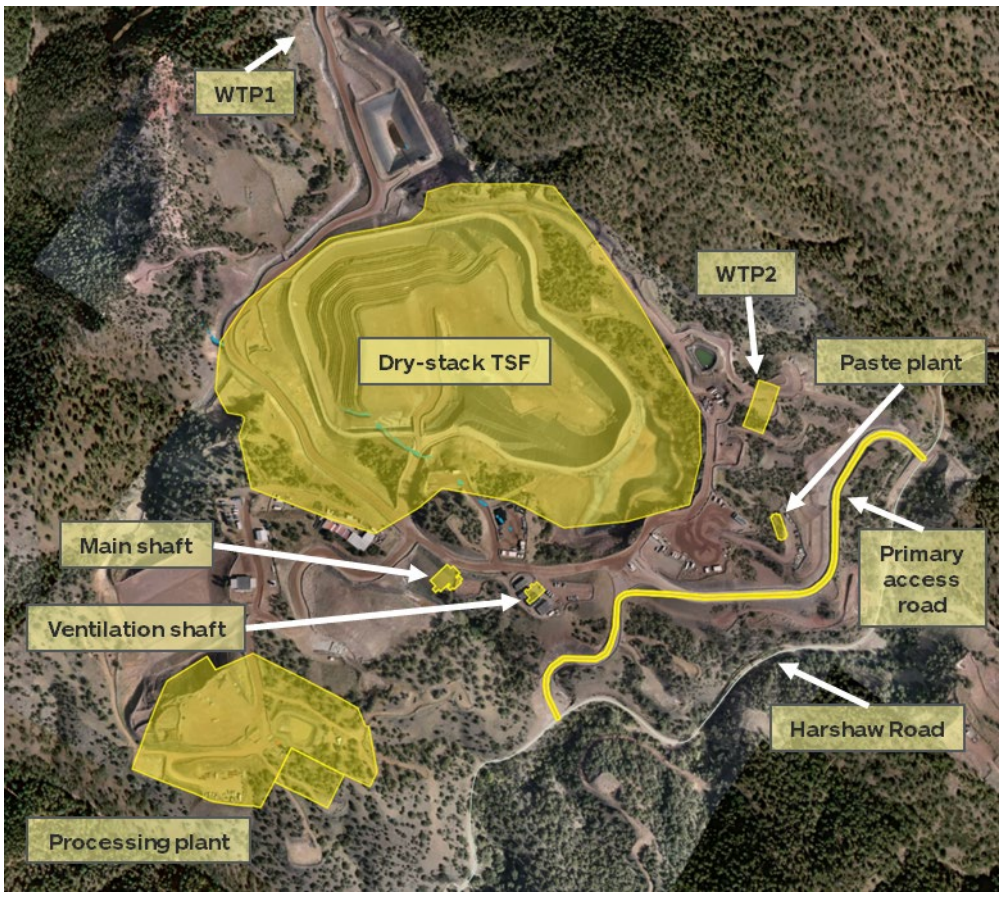


The PFS mine ramp-up enables nameplate capacity to be reached in FY30. Annual average payable production is ~111kt zinc, ~138kt lead and ~7.3Moz silver (~280kt ZnEq[9]). Production over the steady state years (FY30 to FY44) is expected to be approximately 20% higher, averaging ~130kt zinc, ~166kt lead and ~8.7Moz silver (~340kt ZnEq[9]).

Site infrastructure

PFS capital includes estimates for non-processing infrastructure, including required tailings, power and water infrastructure.

Figure 4: Site infrastructure



The tailings storage facilities (TSF) have been designed in accordance with South32's Dam Management Standard, with our approach being consistent with the International Council on Mining and Metals (ICMM) Tailings Governance Framework. We are also progressing work on compliance with the Global Industry Standard on Tailings Management. Approximately half of the tailings produced will be thickened and filtered and sent back underground as paste backfill, reducing the surface environmental footprint. The remaining filtered tailings will be placed in one of two dry stack TSFs. The first facility is located on patented land and is an expansion to the existing TSF which was constructed as part of the voluntary remediation program completed in CY20. This already completed work established a state-of-the-art dry stack facility which will provide initial tailings capacity to support the commencement of operations. The PFS contemplates a second purpose-built facility on unpatented land, requiring Federal permits.

Future site power needs are expected to be met through transmission lines connecting to the local grid. Grid power is currently generated from a combination of coal, natural gas and renewables including solar, hydro and wind power. We have commenced discussions in relation to securing 100% renewable energy for the project, with options for grid-based renewable energy as well as new solar power projects to be advanced through the feasibility study.

Orebody dewatering is a critical path activity in the PFS schedule and capital expenditure has been committed to support construction and the installation of its related infrastructure, commencing from H2 FY22. The hydrogeological studies completed in the PFS and the design of the required water wells and infrastructure have been completed to feasibility-stage standards to support the execution of these early works.

Water treatment requirements are expected to met through two proposed water treatment plants (WTP). WTP1 is already installed and treatment upgrades are expected to be commissioned in Q3 FY22, while WTP2 is expected to be commissioned in Q4 FY23.

Logistics

Hermosa is well located with existing nearby infrastructure for both bulk rail and truck shipments to numerous North American ports. The transportation of concentrates is expected to be a combination of trucking to a rail transfer facility (for subsequent rail transfer to port) and directly to port, for shipping to Asian and European smelters. Specialised bulk containers will be used to eliminate dust exposure from the time of load out until discharge to the ocean vessel. The expected trucking route in the PFS includes the construction of a connecting road to a state highway and other upgrades to road infrastructure.

PFS shipping costs assume transportation of concentrate to Asia and Europe. During feasibility we will continue to investigate the potential to supply smelters in the Americas, substantially lowering our assumed transport logistics and shipping costs.

Operating cost estimates

The PFS includes estimates for mining, processing, general and administrative operating costs.

Mining costs (~US$35/t ore processed) include all activities related to underground mining, including labour, materials, utilities and maintenance. Processing costs (~US$13/t ore processed) include consumables, labour and power. General and administrative costs (~US$10/t ore processed) include head office corporate costs and site support staff. Other costs (~US$23/t ore processed) include shipping and transport (~US$16/t ore processed), marketing and royalties, with private net smelter royalties averaging 2.4% (~US$4/t ore processed).

Average PFS operating unit costs of ~US$81/t ore processed (~US$77/t at steady state production) reflect the high productivity rates expected from concurrently mining multiple independent underground areas and the benefit from access to local, skilled service providers.

Average PFS Operating unit costs expressed on a zinc equivalent basis of ~US$(0.71)/lb and AISC[11] of ~US$(0.05)/lb place the Taylor Deposit in the first quartile of the industry cost curve[1].

Table 5: Operating unit costs – $t/ore processed

Item	US$/t ore processed
Mining	~35
Processing	~13
General and administrative	~10
Other (including royalties)	~23
Total	**~81**

Table 6: Operating unit costs – $/lb ZnEq

Item	$/lb ZnEq
Mining	~0.51
Processing	~0.19
General and administrative	~0.15
Other (including royalties)	~0.33
Operating unit costs	**~1.18**
Lead and silver credits	~(1.89)[12]
Zinc equivalent operating unit costs	**~(0.71)**

Capital cost estimates

Direct PFS capital expenditure estimates to construct Taylor are shown below. The construction period following a final investment decision is expected to be approximately four years. Indirect costs include contingency, owner's and engineering, procurement, and construction management (EPCM) costs to support the project. The Group will also continue to incur ongoing costs for work being undertaken across the broader Hermosa project that will be separately guided.

Table 7: Growth capital expenditure (from 1 January 2022)

Item	US$M
Mining	~565
Surface facilities	~440
Dewatering	~225
Direct costs	**~1,230**
Indirect costs (including contingency)	~470
Total	**~1,700**

Mining capital expenditure includes the shafts (~US$310M), development, mobile equipment and infrastructure. Surface facilities includes the processing plant (~US$350M), tailings and utilities. The capital estimate reflects assumptions for key inputs including steel, cement and labour as at H1 FY22.

Additional capital is included in the PFS estimates for critical path orebody dewatering. The direct capital expenditure estimate of US$225M includes expenditure directly attributable to water wells and a second required water treatment plant. A further ~US$140M of owner's costs across the period of dewatering are included within indirect costs (~US$470M).

Further value engineering work in the feasibility study will target a potential reduction in capital costs through further optimisation of the shaft design, construction and procurement.

Sustaining capital expenditure is expected to average approximately US$40M per annum and primarily relates to mine development.

Development approvals

The Hermosa project's mineral tenure is secured by 30 patented mining claims totaling 228 hectares that have full surface and mineral rights owned by South32. The patented land is surrounded by 1,957 unpatented mining claims totaling 13,804 hectares. The surface rights of the unpatented mining claims are administered by the USFS under multiple-use regulatory provisions.

The initial PFS mine development and surface infrastructure, including the processing plant, on-site power and the first TSF are designed to be located on patented mining claims. As a result, construction and mining of the Taylor Deposit can commence with approvals and permits issued by the State of Arizona. Several required permits for dewatering are already held, with the timeframe to receive the remaining State-based approvals expected to take up to approximately two years. Surface disturbance and additional tailings storage on unpatented land will require completion of the NEPA process with the USFS, in order to receive a Record of Decision (RoD). The ramp-up to nameplate production assumed in the PFS could take longer than contemplated if the RoD was delayed, as production may need to be slowed so tailings capacity could be restricted to patented lands until the RoD is received.

Our approach to sustainability at Hermosa

Sustainable development is at the heart of our purpose at South32 and forms an integral part of our strategy. Our commitment to sustainable development is embedded in the approach we are adopting at Taylor.

We have developed a comprehensive stakeholder identification, analysis and engagement plan. Our key stakeholders include local communities within Santa Cruz County, Native American tribes with historic affiliation around the project area, and county, state and federal government agencies.

Partnering with local communities

We have developed a community investment plan for Hermosa. Key investment initiatives include a South32 Hermosa Community Fund developed in partnership with the Community Foundation for South Arizona, community sponsorships and grants to community programs that reflect the priorities of the communities around Hermosa. In addition to community investment programs, we have established local procurement and employment plans designed to provide direct economic benefits for our communities.

Preserving cultural heritage

We are committed to working with Native American tribes who have a historic affiliation with the area around the Hermosa project. While there are no Native American trust lands near Hermosa, historic habitation or use of the region by Indigenous Peoples may establish culturally significant connections. We have completed initial surveys for cultural resources on both our patented lands and unpatented mining claims and will continue to engage with Native American tribes who have historic affiliations to gain a more thorough understanding of sensitive cultural resources.

Managing our environmental impact

An environmental management plan (EMP) has been developed for Hermosa that is consistent with the South32 Environment Standard. Key aspects of the EMP include baseline studies, risk assessments and mapping of key features with respect to biodiversity, ecosystems and water. The baseline studies have included several biological studies and surveys, including for species listed under the *Endangered Species Act* (ESA) and USFS sensitive species, as well as monitoring of surface water, ground water and air quality. The ongoing collection, analysis and modelling of baseline information and survey data will align with the South32 Environment Standard and support the required permits and approvals for Hermosa.

Hermosa is in a semi-arid environment, with most rainfall occurring in the “monsoon” season of July through October. Water resource monitoring and management plans have been developed to support an understanding of the baseline conditions and numerical modelling of surface and groundwater resources. Additional studies are planned for completion as part of the Taylor feasibility study.

Targeting net zero carbon operational emissions

Taylor has been designed as a low carbon operation, with the primary sources of carbon emissions being residual diesel consumption and grid power. We have identified several opportunities to improve this starting position, with active discussions to secure 100% renewable energy for site power and the feasibility study to include further evaluation of the potential use of battery electric vehicles and underground mining equipment. We are testing technology solutions to support this, with a trial of electric vehicles planned at our Cannington zinc-lead-silver mine during FY22 and our ongoing participation in the Electric Mine Consortium[13].

Commodities for a low carbon future

The proposed development of Taylor is consistent with our focus on reshaping our portfolio for a low carbon future, increasing our exposure to base and precious metals and reducing our carbon intensity.

The metals produced at Taylor are expected to play a role in supporting global decarbonisation. Zinc demand is expected to benefit from an increase in renewable energy infrastructure such as solar, where it allows for higher energy conversion, and wind, given its use in protecting key elements from corrosion. Silver is used in solar panels due to its superior electrical conductivity and has higher intensity of use in electric vehicles compared to internal combustion engine (ICE) cars. In the medium term, the ongoing growth in ICE vehicles sales will continue to see demand for lead-acid batteries grow, with lead demand also expected to be supported by its use in renewable energy storage systems.

Taylor project summary

Key PFS assumptions and outcomes are summarised below.

Table 8: Taylor PFS assumptions

Mining	
Mineral Resource estimate	138Mt averaging 3.82% zinc, 4.25% lead and 81g/t silver
Resource life	~22 years
Mining method	Longhole open stoping with paste backfill
Mined ore grades	Zinc 4.1%, Lead 4.5%, Silver 82g/t
Processing	
Mill capacity	~4.3Mtpa
Concentrates	Separate zinc and lead concentrates with silver credits
Zinc recoveries (in zinc concentrate)	~90%
Lead recoveries (in lead concentrate)	~91%
Silver recoveries (in lead concentrate)	~81%
Metal payability	Zinc ~85%, Lead ~95%, Silver ~95% (in lead concentrate)
Zinc concentrate grade	~53%
Lead concentrate grade	~70%
Payable metal production	
Zinc	~2.4Mt (~111kt annual average)
Lead	~3.0Mt (~138kt annual average)
Silver	~160Moz (~7.3Moz annual average)
Zinc equivalent[9]	~6.2Mt (~280kt annual average)
Capital costs	
Direct capital expenditure	~US$1,230M
Indirect capital expenditure	~US$470M
Sustaining capital expenditure	~US$40M annual average
Schedule	
First production	FY27
Steady state production	FY30-FY44
Operating costs	
Mining costs	~US$35/t ore processed
Processing costs	~US$13/t ore processed
General and administrative costs	~US$10/t ore processed
Other operating unit costs	~US$23/t ore processed (incl. royalties)
Operating unit costs	~US$81/t ore processed
Zinc equivalent operating unit cost	~(US$0.71/lb) ZnEq (incl. lead and silver credits)
All-in sustaining cost[11]	~(US$0.05)/lb ZnEq (incl. lead and silver credits)
Fiscal terms	
Corporate tax rate[14]	~26%
Royalties	Average 2.4% private net smelter royalties

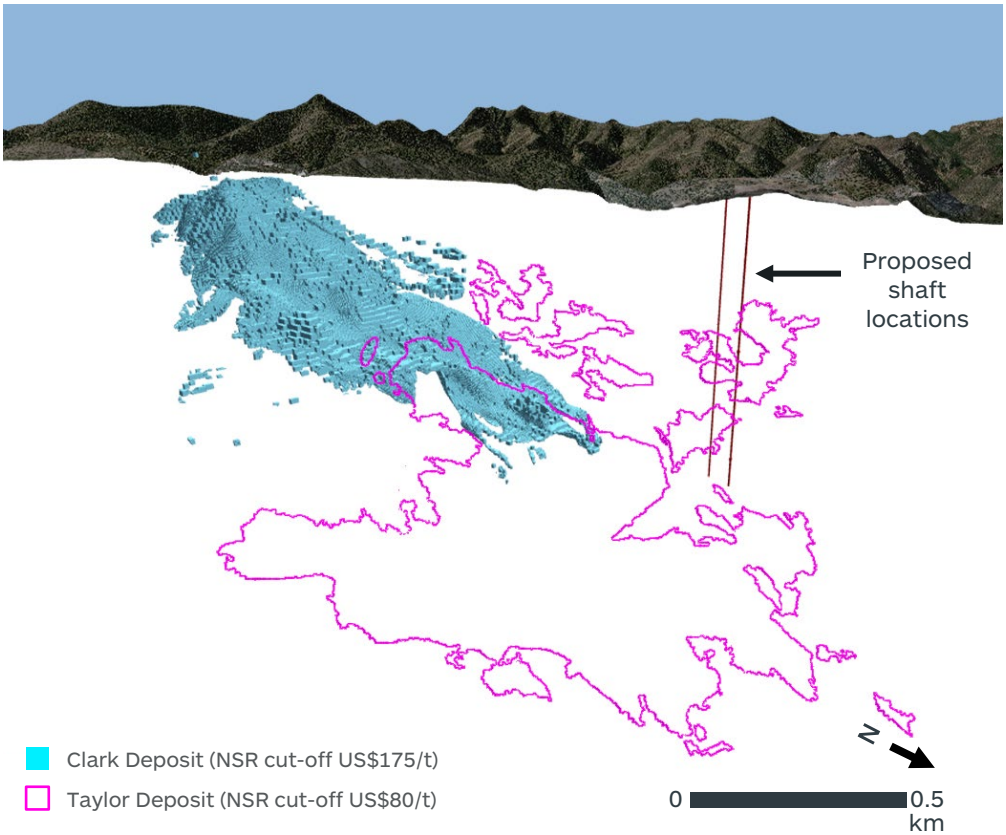
CLARK DEPOSIT SCOPING STUDY

Clark is a manganese-zinc-silver oxide deposit located adjacent, and up-dip of the Taylor Deposit, which has a Mineral Resource estimate of 55 million tonnes, averaging 9.08% manganese, 2.31% zinc and 78 g/t silver using a NSR cut-off of US$175/t[4] in accordance with the JORC Code. The Clark Deposit is interpreted as the upper oxidised, manganese-rich portion of the mineralised system, with the resource extending from near surface to a depth of approximately 600m.

The Clark Deposit has the potential to underpin a second development at Hermosa. We recently completed a scoping study[2] for the Clark Deposit which has confirmed viable flowsheets to produce battery-grade manganese, in the form of electrolytic manganese metal (EMM) or high purity manganese sulphate monohydrate (HPMSM). Clark has advanced to a PFS for a potential underground mine development using longhole open stoping accessed from existing patented mining claims. The PFS is designed to increase confidence in our technical and operating assumptions and customer opportunities in the rapidly growing battery-grade manganese markets. The first phase of the PFS is expected to be completed in late CY22, at which point a preferred development pathway will be selected. Many areas of the PFS, including mine planning, hydrogeology, infrastructure, sustainability and permitting will benefit from work completed in the Taylor PFS.

Our study work will also review the potential to pursue an integrated development of Taylor and Clark. An integrated development would comprise underground mining operations for Taylor and Clark with separate processing circuits to produce base and precious metals, and battery-grade manganese. An integrated development has the potential to realise operating and capital efficiencies.

Figure 5: Clark and Taylor deposits

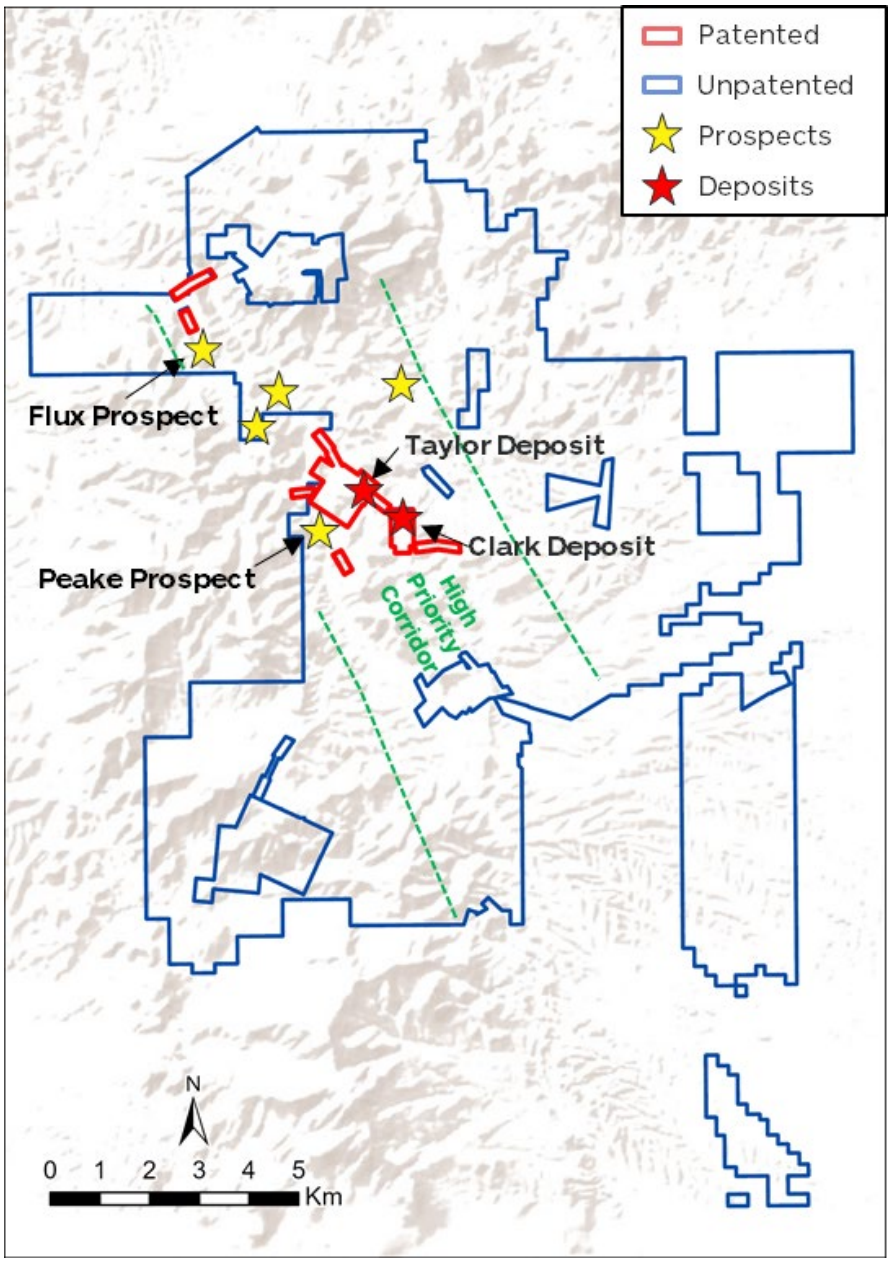


REGIONAL EXPLORATION

Our third area of focus at Hermosa is unlocking value through exploration of our highly prospective regional land package. Since our initial acquisition, we have increased our tenure by 66%, consolidating our position in the most prospective areas. We have completed surface geophysics, soil sampling, mapping and other exploration activity, resulting in the definition of a highly prospective corridor across our land package which will be prioritised for future testing.

Within this highly prospective corridor, we plan to drill test the Flux prospect in the second half of CY22 following the receipt of required permits. The Flux prospect is located down-dip of an historic mining area in carbonates that could host Taylor-like mineralisation[8]. Our ongoing exploration strategy will focus on identifying, permitting and drilling new exploration targets across the land package while continuing to refine our understanding of the regional geology.

Figure 6: Regional exploration



FOOTNOTES

1. Based on Taylor's estimated all-in sustaining costs (AISC) in the PFS and the Wood Mackenzie Lead/Zinc Asset Profiles. AISC includes operating unit costs (including royalties), treatment and refining charges (TCRCs), and sustaining capital expenditure.
2. Clark Deposit scoping study cautionary statement: The scoping study referred to in this announcement is based on low-level technical and economic assessments and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the scoping study will be realised. The study is based on 60% Indicated and 40% Inferred Mineral Resources (refer to footnote 4 for the cautionary statement).
3. Competent Persons Statement and cautionary statement – Exploration Results and Exploration Target: The information in this announcement that relates to Exploration Results and Exploration Targets for Hermosa (including Peake) is based on information compiled by David Bertuch, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy and is employed by South32. Mr Bertuch has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Bertuch consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The JORC Table 1 (sections 1 and 2) related to the Exploration Results and Exploration Targets is included in Annexure 1. In respect of those Exploration Targets, the potential quantity and grade is conceptual in nature. There has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of Mineral Resources.
4. Mineral Resource Statements for the Taylor and Clark deposits: The information in this announcement that relates to Mineral Resources for the Taylor and Clark deposits is extracted from South32's FY21 Annual Report (www.south32.net) published on 3 September 2021. The information was prepared by a Competent Person in accordance with the requirements of the JORC Code. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement, and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. South32 confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.
5. Resource life is estimated using Mineral Resources (extracted from South32's FY21 Annual Report published on 3 September 2021 and available to view on www.south32.net) and Exploration Target (details of which are available in this announcement) converted to a run-of-mine basis using conversion factors, divided by the nominated run-of-mine production rate on a 100% basis. Whilst South32 believes it has a reasonable basis to reference this resource life and incorporate it within its Production Targets, it should be noted that resource life calculations are indicative only and do not necessarily reflect future uncertainties such as economic conditions, technical or permitting issues. Resource life is based on our current expectations of future results and should not be solely relied upon by investors when making investment decisions.
6. Production Targets Cautionary Statement: The information in this announcement that refers to the Production Target and forecast financial information is based on Measured (20%), Indicated (62%) and Inferred (14%) Mineral Resources and Exploration Target (4%) for the Taylor Deposit. All material assumptions on which the Production Target and forecast financial information is based is available in Annexure 1. The Mineral Resources underpinning the Production Target have been prepared by a Competent Person in accordance with the JORC Code (refer to footnote 4 for the cautionary statement). All material assumptions on which the Production Target and forecast financial information is based is available in Annexure 2. There is low level of geological confidence associated with the Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Production Target will be realised. The potential quantity and grade of the Exploration Target is conceptual in nature. In respect of the Exploration Target used in the Production Target, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of Mineral Resources or that the Production Target itself will be realised. The stated Production Target is based on South32's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met. South32 confirms that inclusion of 18% tonnage (14% Inferred Mineral Resources and 4% Exploration Target) is not the determining factor of the project viability and the project forecasts a positive financial performance when using 82% tonnage (20% Measured and 62% Indicated Mineral Resources). South32 is satisfied, therefore, that the use of Inferred Mineral Resources and Exploration Target in the Production Target and forecast financial information reporting is reasonable.
7. Preferred case design capacity based on Taylor PFS outcomes.
8. Flux Exploration Target: The information in this announcement that relates to the Exploration Target for Flux is extracted from "South32 Strategy and Business Update" published on 18 May 2021 and is available to view on www.south32.net. The information was prepared by a Competent Person in accordance with the requirements of the JORC Code. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. South32 confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.
9. Payable zinc equivalent was calculated by aggregating revenues from payable zinc, lead and silver, and dividing the total revenue by the price of zinc. Average metallurgical recovery assumptions are 90% for zinc, 91% for lead and 81% for silver in lead concentrate. FY21 average index prices for zinc (US$2,695/t), lead (US$1,992/t) and silver (US$25.50/oz) (excluding treatment and refining charges) have been used.
10. Based on steady state production years (FY30 to FY44).
11. AISC includes Operating unit costs (including royalties), TCRCs and sustaining capital expenditure.
12. Lead and silver credits are calculated using FY21 average index prices for lead (US$1,992/t) and silver (US$25.50/oz).
13. South32 is a founding member of the Electric Mine Consortium, which aims to accelerate progress towards a fully electrified zero carbon, zero particulates, mine. More information is available at www.electricmine.com.
14. Federal tax of 21.0% and Arizona state tax of 4.9% of taxable income, subject to applicable allowances. Hermosa has an opening tax loss balance of approximately US$83M as at 30 June 2020. Property and severance taxes are also expected to be paid. Based on the PFS schedule, we expect to commence paying income taxes from FY29.

About us

South32 is a globally diversified mining and metals company. Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources. We produce bauxite, alumina, aluminium, metallurgical coal, manganese, nickel, silver, lead and zinc at our operations in Australia, Southern Africa and South America. With a focus on growing our base metals exposure, we also have two development options in North America and several partnerships with junior explorers around the world.

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Approved for release by Graham Kerr, Chief Executive Officer
JSE Sponsor: UBS South Africa (Pty) Ltd
17 January 2022

Forward-looking statements

This release contains forward-looking statements, including statements about trends in commodity prices and currency exchange rates; demand for commodities; production forecasts; plans, strategies and objectives of management; capital costs and scheduling; operating costs; anticipated productive lives of projects, mines and facilities; and provisions and contingent liabilities. These forward-looking statements reflect expectations at the date of this release, however they are not guarantees or predictions of future performance. They involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this release. Readers are cautioned not to put undue reliance on forward-looking statements. Except as required by applicable laws or regulations, the South32 Group does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance. South32 cautions against reliance on any forward looking statements or guidance, particularly in light of the current economic climate and the significant volatility, uncertainty and disruption arising in connection with COVID-19.

Annexure 1: JORC Code Table 1

HERMOSA PROJECT – EXPLORATION RESULTS

The following table provides a summary of important assessment and reporting criteria used for the reporting of Taylor sulphide exploration results for the Hermosa project, which is located in southern Arizona, USA (Figure 1), in accordance with the Table 1 checklist in The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition) on an 'if not, why not' basis.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Sampling techniques	• The drilling that supports the exploration results is located outside of the current Taylor Mineral Resource estimate declared as at 30 June 2021 in the South32 Annual Report. A total of 53 diamond drill holes (HQ/NQ) totalling 73,632 metres have been drilled across the Taylor sulphide mineralisation. In order to define mineralisation continuity, the drilling information used to inform the resource is used for geological interpretation of the exploration results. In addition, the geological model also reflects input from near-surface reverse circulation (RC) drilling. All drilling is at predominantly 1.5m (5') intervals on a half core basis. • A heterogeneity study is yet to be concluded to determine sample representivity. • Core is competent and sample representivity is monitored using predominantly quarter or half core field duplicates submitted at a rate of approximately 1:40 samples. Field duplicates located within mineralisation envelopes demonstrate 70–90% performance to within 30% of original sample splits. • Core assembly, interval mark-up, recovery estimation (over the 3m drill string) and photography all occur prior to sampling and follow documented procedures. • Sample size reduction during preparation involves crushing and splitting of HQ (95.6mm) or NQ (75.3mm) half-core.
Drilling techniques	• Data used for exploration results is based on logging and sampling of HQ diamond core, reduced to NQ in areas of difficult drilling. Triple and split-tube drilling methods were also employed in cases where conditions required these mechanisms to improve recovery. • All drill core has been oriented using the Boart Longyear 'Trucore' system since mid-August 2018. In Q3 FY20, acoustic televiewer data capture was implemented for downhole imagery for the majority of drilling to improve orientation and geotechnical understanding. Structural measurements from oriented drilling have been incorporated in geological modelling to assist with fault interpretation.
Drill sample recovery	• Prior to October 2018, core recovery was determined by summation of individual core pieces within each 3m drill string. Recovery for the drill string has since been measured after oriented core alignment and mark-up. • Core recovery is recorded for all diamond drill holes. Recovery of holes for the ranging and targeting exercise exceeds 96%. • Poor core recovery can occur when drilling overlying oxide material and in major fault zones. To maximise recovery, drillers vary speed, pressure and composition of drilling muds, reduce HQ to NQ core size and use triple tube and '3 series' drill bits. • When core recovery is compared to Zn, Pb and Ag grades for both a whole data set and within individual lithology, there is no discernible relationship. • Correlation analysis suggests there is no relationship between core recovery and depth except where structure is considered. There are isolated cases where lower recovery is localised at intersections of the Taylor sulphide carbonates with a major thrust structure.
Logging	• The entire length of core is photographed and logged for lithology, alteration, structure, rock quality designation (RQD), and mineralisation. • Logging is both quantitative and qualitative; there are a number of examples including estimation of mineralisation percentages and association of preliminary interpretative assumptions with observations. • All logging is peer reviewed against core photos and in the context of current geological interpretation and surrounding drill holes during geological model updates. • Logging is to a level of detail to support the exploration results.

Criteria	Commentary
Sub-sampling techniques and sample preparation	• Sawn half core and barren whole core samples are taken on predominantly 1.5m intervals for the entire drill hole after logging. Mineralisation is highly visual. Sampling is also terminated at litho-structural and mineralogical boundaries to reduce the potential for boundary/dilution effects at a local scale. • Sample lengths can vary between 0.75m and 2.3m. The selection of the sub-sample size is not supported by sampling studies. • Sample preparation has occurred offsite at an ISO17025-certified laboratory since the Taylor sulphide deposit discovery. This was initially undertaken by Skyline until 2012, then by Australian Laboratory Services (ALS). Samples submitted to ALS are generally 4–6kg in weight. Sample size reduction during preparation involves crushing of HQ (95.6mm) or NQ (75.3mm) half or whole core, splitting of the crushed fraction, pulverisation, and splitting of the sample for analysis. A detailed description of this process is as follows: o The entire half or whole core samples are crushed and rotary split in preparation for pulverisation. Depending on the processing facility, splits are done via riffle or rotary splits for pulp samples. o Fine crushing occurs until 70% of the sample passes 2mm mesh. A 250g split of finely crushed sub-sample is obtained via rotary or riffle splitter and pulverised until 85% of the material is less than 75µm. These 250g pulp samples are taken for assay, and 0.25g splits are used for digestion. • ALS protocol requires 5% of samples to undergo a random granulometry QC test. Samples are placed on 2 micron sieve and processed completely to ensure the passing mesh criteria is maintained. Pulps undergo similar tests with finer meshes. Results are loaded to an online portal for review to client. • Sample preparation precision is also monitored with blind laboratory duplicates assayed at a rate of 1:50 submissions. • Coarse crush preparation duplicate pairs show that 80% of all Zn and Ag pairs for sulphide mineralisation report within +/-20% of original samples. Performance drops off for Pb mineralisation, with less than 70% of duplicates reporting within the +/-20% limits. • More than 85% of pulp duplicates report within a 10% variance for Zn and Ag within all pulp duplicates. Performance for Pb is demonstrably poorer, similar to the preparation duplicates, with less than 80% of all pulp duplicates reporting within this tolerance. • Sub-sampling techniques and sample preparation are adequate for providing quality assay data for declaring exploration results but will benefit from planned studies to optimise sample selectivity and quality control procedures.
Quality of assay data and laboratory tests	• Samples of 0.25g from pulps are processed at ALS Vancouver using ME-ICP61, where these are totally digested using a four-acid method followed by analysis with a combination of Inductively Coupled Plasma – Mass Spectrometry (ICP-MS) and Inductively Coupled Plasma – Atomic Emission Spectroscopy (ICP-AES) determination for 33 elements. Overlimit values for Ag, Pb, Zn, and Mn utilise OG-62 analysis. In November 2020, Hermosa switched to the analytical method ME-MS61 for the four acid 48 element assay for additional elements and improved detection limits alongside the addition of overlimit packages of S-IR07 for S and ME-ICP81 for Mn. Digestion batches of 36 samples plus four internal ALS control samples (one blank, two CRM, and one duplicate) are processed using a four-acid digestion. Analysis is done in groups of three larger digestion batches. Instruments are calibrated for each batch prior to and following the batch. • ALS internal QA/QC samples are continuously monitored for performance. In the case of a blank failure, for example, the entire batch is redone from the crushing stage. If one CRM fails, data reviewers internal to ALS examine the location of the failure within the batch and determine how many samples around the failure should be reanalysed. If both CRMs fail, the entire batch is rerun. No material failures have been observed from the data. • Coarse and fine-grained certified silica blank material submissions, inserted at the beginning and end of every work order of approximately 200 samples, indicate a lack of systematic sample contamination in sample preparation and ICP solution carryover. While systematic contamination issues are not observed for the blanks, the nature of the blanks themselves and suitability for use in QA/QC for polymetallic deposits is in question. o Failures for blanks are noted at greater than ten times detection limit or recommended upper limit for the certified blank material for each analyte, failures range from 0% for Ag (>5ppm), 1% for Cu (>10ppm), 3.5% for Pb (>20ppm), and 7.5% for Zn (>20ppm), and indicate that the blanks themselves are not truly suited for

Criteria	Commentary
	polymetallic deposits. In particular, a coarse blank submitted from 2017–2018 demonstrated consistent contamination above detection limits for Zn, Cu, Mn, and other elements. This has since been replaced with a better performing coarse blank of the end of 2018. ○ The nature of the blanks and the failures observed are very low for Ag and Cu, and failures for blanks for Zn and Pb are in the hundreds of ppm. No consistent bias has been observed and the magnitude of impacts at the low end for the blanks are very limited. It is not likely to impact the exploration results. • A range of certified reference materials (CRM) are submitted at a rate of 1:40 samples to monitor assay accuracy. The CRM failure rate is very low, ranging from 0.1% to 1.3% depending on analyte, demonstrating reliable laboratory accuracy. • External laboratory pulp duplicates and CRM checks have been submitted to the Inspectorate (Bureau Veritas) laboratory in Reno from November 2017 to 2018 and resumed in March 2021 at a rate of 1:100 to monitor procedural bias. Between 84% and 89% of samples for Zn, Pb and Ag were within expected tolerances of +/-20% when comparing three-acid (Inspectorate) and four-acid (ALS) digest methods. No significant bias was determined. • The nature and quality of assaying and laboratory procedures are appropriate for supporting disclosure of exploration results.
Verification of sampling and assaying	• Core photos of the entire hole are reviewed by alternative company personnel (modelling geologists) to verify significant intersections and finalise geological interpretation of core logging. • Sampling is recorded digitally and uploaded to an Azure SQL project customised database (Plexer) via an API provided by the ALS laboratory and the external laboratory information management system (LIMS). Digital transmitted assay results are reconciled upon upload to the database. • No adjustment to assay data has been undertaken.
Location of data points	• Drill hole collar locations are surveyed by registered surveyors using a GPS Real Time Kinematic (RTK) rover station correlating with the Hermosa project RTK base station and Global Navigation Satellite Systems with up to 1cm accuracy. • Downhole surveys prior to mid-August 2018 were taken with a 'TruShot' single shot survey tool every 76m and at the bottom of the hole. From 20 June 2018 to 14 August 2018, surveys were taken at the same interval with both the single shot and a Reflex EZ-Gyro, before the Reflex EZ-Gyro was used exclusively. • The Hermosa project uses the Arizona State Plane (grid) Coordinate System, Arizona Central Zone, International Feet. The datum is NAD83 with the vertical heights converted from the ellipsoidal heights to NAVD88 using GEOID12B. • All drill hole collar and downhole survey data was audited against source data. • Survey collars have been compared against a one-foot topographic aerial map. Discrepancies exceeding 1.8m were assessed against a current aerial flyover and the differences attributed to surface disturbance from construction development and/or road building. • Survey procedures and practices result in data location accuracy suitable for mine planning.
Data spacing and distribution	• Drill hole spacing ranges from 60m to 600m. The spacing supplies sufficient information for assessment of exploration results. • Geological modelling has determined that drill spacing is sufficient to establish the degree of geological and grade continuity necessary to support review of exploration results.
Orientation of data in relation to geological structure	• For geological modelling, mineralisation varies in dip between 30°NW in the upper Taylor Sulphide domain and between 20°N and 30°N in the lower Taylor Deeps and the Peake Copper-Skarn prospect. Most drilling is oriented vertically and at a sufficiently high angle to allow for accurate representation of grade and tonnage using three-dimensional modelling methods. • There is indication of sub-vertical structures, possibly conduits for or offsetting mineralisation, which have been accounted for at a regional scale through the integration of mapping and drilling data. Angled, oriented core drilling introduced from October 2018

Criteria	Commentary
	is designed to improve understanding of the relevance of these structures to mineralisation.
Sample security	• Samples are tracked and reconciled through a sample numbering and dispatch system from site to the ALS sample distribution and preparation facility in Tucson. The ALS LIMS assay management system provides an additional layer of sample tracking from the point of sample receipt. Movement of sample material from site to the Tucson distribution and preparation facility is a combination of ALS dedicated transport and project contracted transport. Distribution to other preparation facilities and Vancouver is managed by ALS dedicated transport. • Assays are reconciled and results processed in an Azure SQL project customised database (Plexer) which has password and user level security. • Core is stored in secured onsite storage prior to processing. After sampling, the remaining core, returned sample rejects and pulps are stored at a purpose-built facility that has secured access. • All sampling, assaying and reporting of results are managed with procedures that provide adequate sample security.
Audits or reviews	• CSA Global audited the sampling methodology and database for the FY21 Mineral Resource estimate and noted that the sampling and QA/QC measures showed the database to be adequate. • An internal database audit was undertaken in February 2019 for approximately 10% of all drilling intersecting sulphide mineralisation (24 of 242 holes). Data was validated against original data sources for collar, survey, lithology, alteration, mineralisation, structure, RQD and assay (main and check assays). The overall error rates across the database were found to be very low. Isolated issues included the absence of individual survey intervals and minor errors in collar survey precision. All were found to have minimal impact on resource estimation. • Golder and Associates completed an independent audit of the exploration results including QA/QC of reported drillholes outside the FY21 Taylor Sulphide Mineral Resource estimate, adherence to the Resource Range Analysis process, inputs, assumptions and outcomes. Outcomes are considered appropriate for public reporting of exploration results.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• The Hermosa project mineral tenure (Figure 2) is secured by 30 patented mining claims totalling 228 hectares that have full surface and mineral rights owned fee simple. These claims are retained in perpetuity by annual real property tax payments to Santa Cruz County in Arizona and have been verified to be in good standing until 31 August 2022. • The patented land is surrounded by 1,957 unpatented lode mining claims totalling 13,804 hectares. These claims are retained through payment of federal annual maintenance fees to the Bureau of Land Management (BLM) and filing record of payment with the Santa Cruz County Recorder. Payments for these claims have been made for the period up to their annual renewal on or before 1 September 2022. • Title to the mineral rights is vested in South32's wholly owned subsidiary Arizona Minerals Inc. (AMI). No approval is required in addition to the payment of fees for the claims.
Exploration done by other parties	• ASARCO LLC (ASARCO) acquired the Property in 1939 and completed intermittent drill programs between 1940 and 1991. ASARCO initially targeted silver and lead mineralisation near historical workings of the late 19th century. ASARCO identified silver-lead-zinc bearing manganese oxides in the manto zone of the overlying Clark Deposit between 1946 and 1953. • Follow-up rotary air hammer drilling, geophysical surveying, detailed geological, and metallurgical studies on the manganese oxide manto mineralisation between the mid-1960s and continuing to 1991 defined a heap leach amenable, low-grade manganese

Criteria	Commentary
	and silver resource, reported in 1968 and updated in 1975, 1979 and 1984. The ASARCO drilling periods account for 98 drill holes from the database. • In March 2006, AMI purchased the ASARCO property and completed a re-assay of pulps and preliminary SO_2 leach tests on the manto mineralisation to report a Preliminary Economic Assessment (PEA) in February 2007. Drilling of RC and diamond holes between 2006 and 2012 focused on the Clark Deposit (235 holes) and early definition of the Taylor Deposit sulphide mineralisation (16 holes), first intersected in 2010. Data collected from the AMI 2006 campaign is the earliest information contributing to estimation of the Taylor Deposit Mineral Resource. • AMI drill programs between 2014 and August 2018 (217 diamond holes) focused on delineating Taylor Deposit sulphide mineralisation, for which Mineral Resource estimates were reported in compliance to NI 43-101 (Foreign Estimate) in November 2016 and January 2018.
Geology	• The regional geology is set within Lower-Permian carbonates, underlain by Cambrian sediments and Proterozoic granodiorites. The carbonates are unconformably overlain by Triassic to late-Cretaceous volcanic rocks (Figures 3 and 4). The regional structure and stratigraphy are a result of late-Precambrian to early-Palaeozoic rifting, subsequent widespread sedimentary aerial and shallow marine deposition through the Palaeozoic Era, followed by Mesozoic volcanism and late batholitic intrusions of the Laramide Orogeny. Mineral deposits associated with the Laramide Orogeny tend to align along regional NW structural trends. • Cretaceous-age intermediate and felsic volcanic and intrusive rocks cover much of the Hermosa project area and host low-grade disseminated silver mineralisation, epithermal veins and silicified breccia zones that have been the source of historic silver and lead production. • Mineralisation styles in the immediate vicinity of the Hermosa project include the carbonate replacement deposit (CRD) style zinc-lead-silver base metal sulphides of the Taylor Deposit and deeper skarn-style copper-zinc-lead-silver base metal sulphides of the Peake prospect and an overlying manganese-silver oxide manto deposit of the Clark Deposit. • The Taylor Deposit comprises the overlying Taylor Sulphide, and Taylor Deeps domains that are separated by a thrust fault. Approximately 600–750m lateral and south to the Taylor Deeps domain, the Peake copper-skarn sulphide mineralisation is identified in older lithological stratigraphic units along the interpreted continuation of the thrust fault (Figures 5 and 6). • The Taylor Sulphide Deposit extends to a depth of around 1,000m and is hosted within approximately a 450m thickness of Palaeozoic carbonates that dip 30°NW, identified as the Concha, Scherrer and Epitaph Formations. • Taylor Sulphide mineralisation is dominantly constrained within a tilted and thrusted carbonate stratigraphy and to a lesser degree the overlying volcanic stratigraphy. The mineralising system is yet to be fully drill tested in multiple directions. At Taylor, the sulphide mineralisation is constrained up-dip where it merges into the overlying oxide manto mineralisation of the Clark Deposit, representing a single contiguous mineralising system. • The north-bounding edge of the thrusted carbonate rock is marked by a thrust fault where it ramps up over the Jurassic/Triassic 'Older Volcanics' and 'Hardshell Volcanics'. This interpreted pre-mineralising structure that created the sequence of carbonates also appears to be a key mineralising conduit. The thrust creates a repetition of the carbonate formations below the Taylor Sulphide domain, which host the Taylor Deeps mineralisation. • The Taylor Deeps mineralisation dips 10°N to 30°N, is approximately 100m thick, and primarily localised near the upper contact of the Concha Formation and the unconformably overlying 'Older Volcanics'. Some of the higher-grade mineralisation is also accumulated along a westerly plunging lineation intersection where the Concha Formation contacts the Lower Thrust. Mineralisation has not been closed off down-dip or along strike. • Lateral to the Taylor Deeps mineralisation, skarn sulphide mineralisation is identified in older lithological stratigraphic units along the interpreted continuation of the thrust fault. This creates an interpreted continuous structural and lithological controlled system from the deeper skarn Cu domain into Taylor Deeps, Taylor Sulphide, and associated volcanic hosted mineralisation and the Clark oxide Deposit.

Criteria	Commentary
Drill hole Information	• A drill hole plan (Figure 4) provides a summary of drilling collar locations that support the exploration results and surface geology. Figure 5 provides a drill hole plan relative to the Taylor FY21 and Clark FY20 Mineral Resource domains, and the Peake copper-skarn prospect. Figure 6 shows a cross section relative to key inputs in Figure 5 alongside the Taylor thrust and simplified geology. • Table 1 summarises all the drill holes that support Exploration Targets. • Table 2 summarises all significant intersections. • All drill hole information, including tabulations of drill hole positions and depths is stored within project data files on a secure company server. • Hole depths vary between 550m and 2,000m.
Data aggregation methods	• Mineralisation domains were created within bounding litho-structural zones using both manually interpreted volumes and Radial Based Function (RBF) indicator interpolation of the cumulative in-situ value of metal content. The metal content descriptor, "Metval", is calculated by summing the multiplication of economic analyte grades for Zn, Pb, Ag and Cu, price and recovery. Metval cut-off ranges for mineralisation domains range from US$5-7.5 for the different litho-structural domains. Material above the Metval cut-off was modelled utilising the indicator numerical model function in Leapfrog Geo™ to create volumes. • Significant assay intercepts are reported as length-weighted averages exceeding either 2% ZnEq or 0.2% Cu. • No top cuts are applied to intercept calculations. • ZnEq (%) is zinc equivalent which accounts for combined value of zinc, lead and silver. Metals are converted to ZnEq via unit value calculations using long term consensus metal price assumptions and relative metallurgical recovery assumptions. For the Exploration Target, overall metallurgical recoveries differ for geological domains and vary from 87% to 94% for zinc, 94% to 95% for lead, and 87% to 92% for silver. Exploration Target tonnage and grade is reported above an NSR that accounts for payability of metals in concentrate products, which depending on other factors, may decrease the total payable recovered metal. Average payable metallurgical recovery assumptions are zinc (Zn) 90%, lead (Pb) 91%, and silver (Ag) 81% and metals pricing assumptions are South32's prices for the December 2021 quarter. The formula used for calculation of zinc equivalent is ZnEq = Zn (%) + 0.718 * Pb (%) + 0.0204 * Ag (g/t).
Relationship between mineralisation widths and intercept lengths	• Near vertical drilling (75–90^0) amounts to the majority of holes used in the creation of the geology model. Where they intersect the low to moderately dipping (30°) stratigraphy the intersection length can be up to 15% longer than true-width. • Since August 2018, drilling has been intentionally angled, where appropriate, between 60° and 75° to maximise the angle at which mineralisation is intersected. • The mineralisation is modelled in 3D to appropriately account for sectional bias or apparent thickness issues which may result from 2D interpretation.
Diagrams	• Relevant maps and sections are included with this market announcement.
Balanced reporting	• Exploration results are reported considering drill holes completed outside the disclosed Mineral Resource estimate as at 30 June 2021. All drill hole intersections are considered in this assessment for balanced reporting. A list of drill holes is included as an annexure to this announcement.
Other substantive exploration data	• Aside from drilling, the geological model is compiled from local and regional mapping, geochemistry sampling and analysis, and geophysical surveys. • Magneto-telluric (MT) and induced polarisation surveys (IP) were conducted with adherence to industry standard practices by Quantec Geosciences Inc. In most areas, the MT stations were collected along N–S lines with a spacing of 200m. Spacing between lines is 400m. Some areas were collected at 400m spacing within individual lines. IP has also been collected, both as 2D lines and as 2.5D swaths, collected with a variable spacing of data receivers. IP surveying is ongoing over the project. • Quality control of geophysical data includes using a third-party geophysical consultant to verify data quality and provide secondary inversions for comparison to Quantec interpretations.
Further work	• The following work is planned to be conducted: ○ The deeper Peake Copper-skarn prospect will be assessed in detail.

Criteria	Commentary
	○ Additional drilling of the Peake Copper-skarn prospect is planned to occur in CY22, guided by the outcomes of a detailed assessment in the area adjacent to Taylor Deeps where very little drilling is completed so far. ○ Additional ongoing drilling will assess Taylor and Taylor Deeps extensional opportunities. ○ Exploratory drilling underneath and downdip of the historic mine workings at the Flux prospect is planned to occur in CY22, pending permit approvals. ○ Additional geophysics over the project is ongoing.

Figure 1: Regional location plan

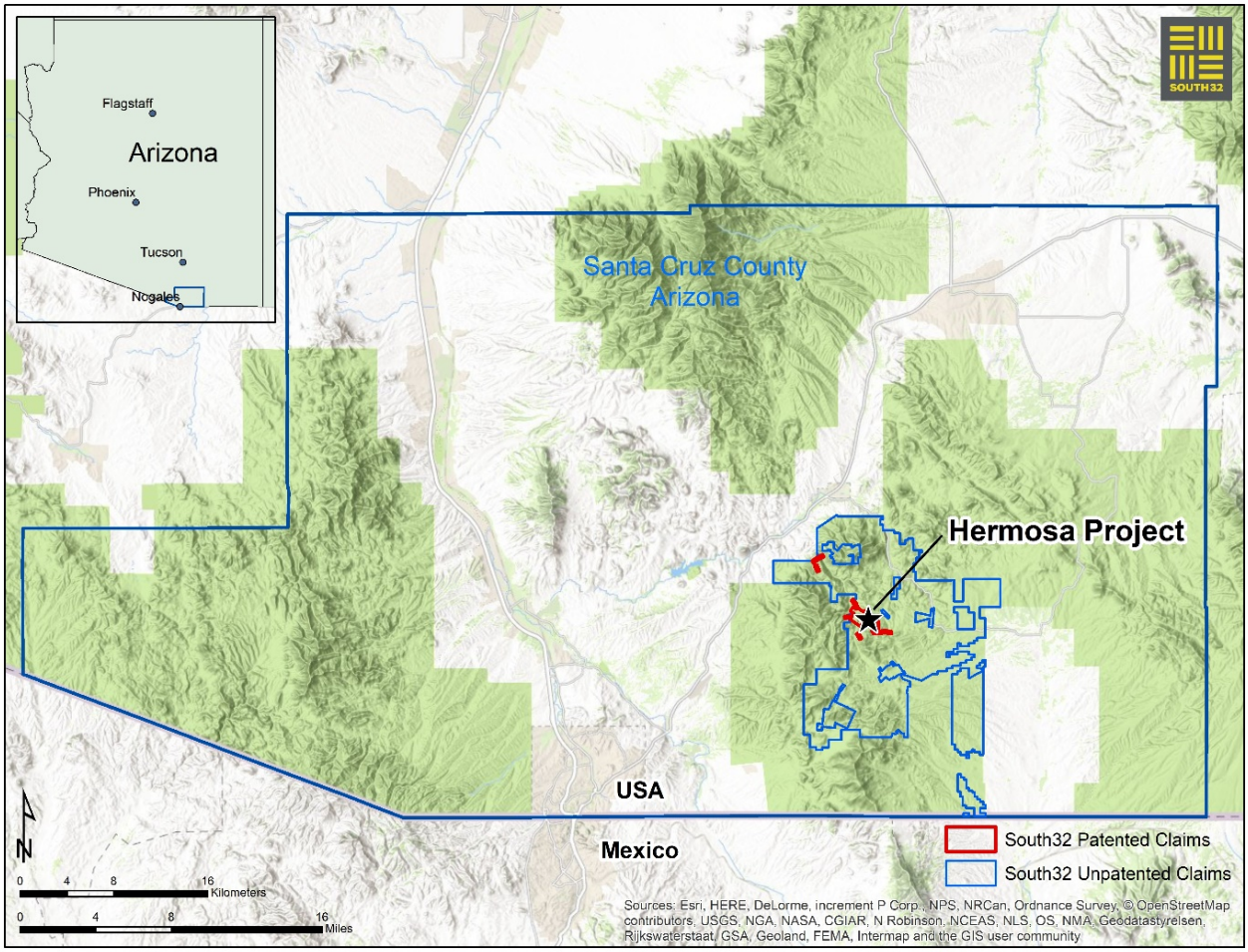


Figure 2: Hermosa project tenement map

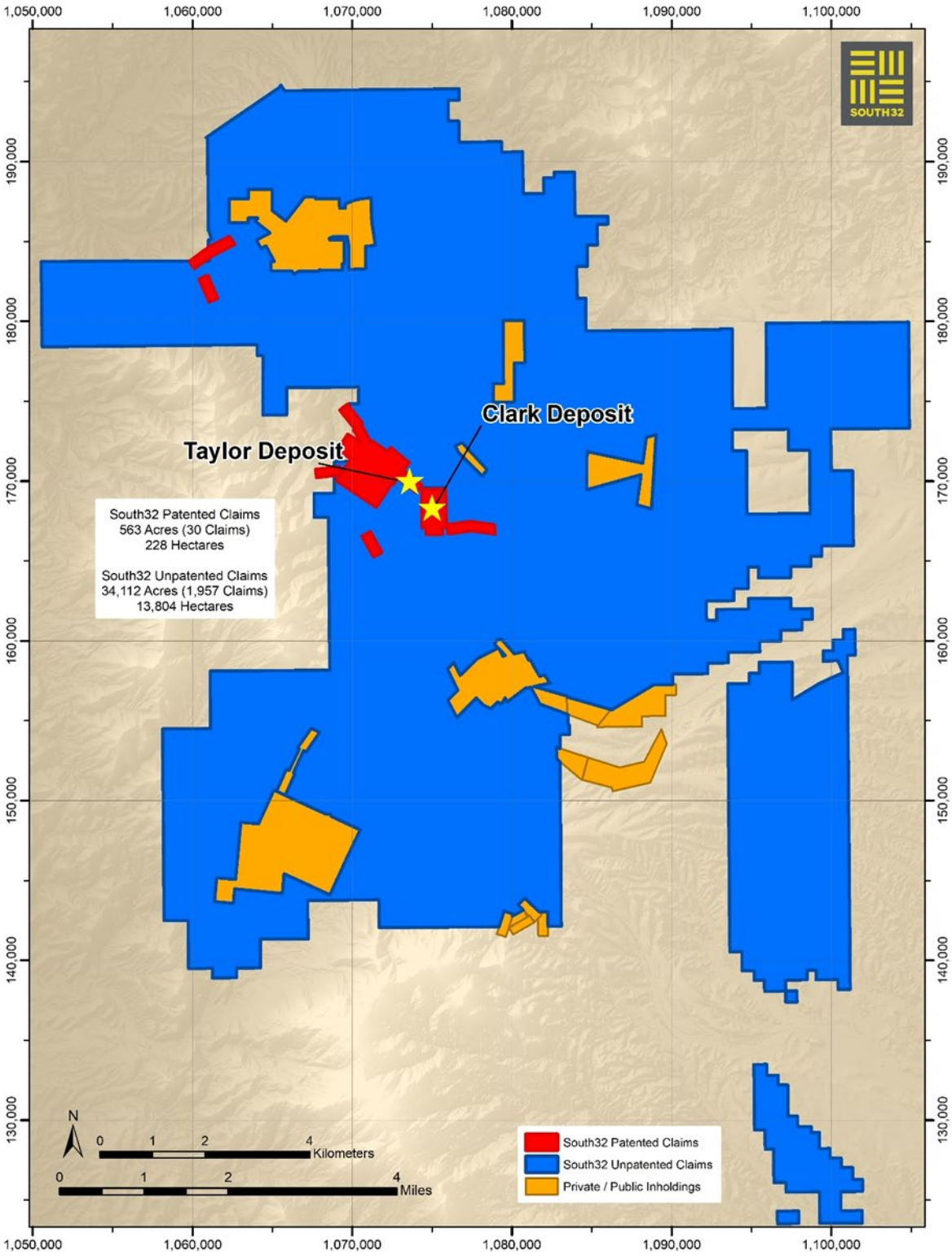
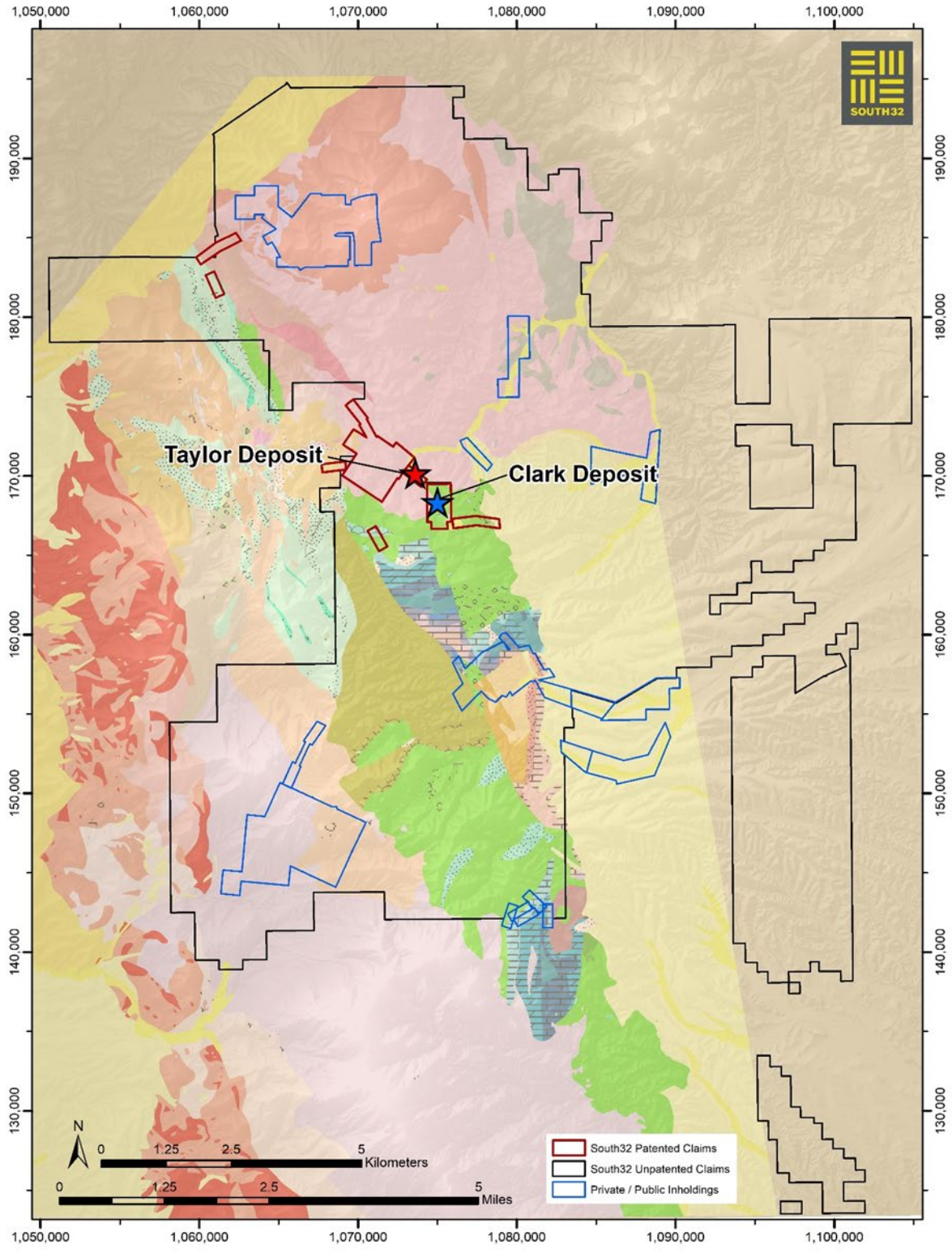


Figure 3: Hermosa project regional geology



Map units

Symbol, Unit name

- Qal—Younger alluvium and talus
- QTal—Older alluvium
- QTg—Gravel and conglomerate
- Tl—Limestone
- Tt—Biotite rhyolite tuff
- si—Silicification
- Tv—Volcaniclastic rocks of middle Alum Gulch
- Tib—Intrusive breccia of middle Alum Gulch
- Tqp—Quartz feldspar porphyry of middle Alum Gulch
- Tqpx—Xenolithic quartz feldspar porphyry of middle Alum Gulch
- Tqmp—Quartz monzonite porphyry, in granodiorite of the Patagonia Mountains
- Tqmpb—Breccia, in quartz monzonite porphyry (unit Tqmp) of granodiorite of the Patagonia Mountains
- Tg—Granodiorite, in granodiorite of the Patagonia Mountains
- Tgb—Breccia, in granodiorite (unit Tg) of granodiorite of the Patagonia Mountains
- Tlp—Latite porphyry, in granodiorite of the Patagonia Mountains
- Tbq—Biotite quartz monzonite, in granodiorite of the Patagonia Mountains
- Tbqb—Breccia, in biotite quartz monzonite (unit Tbq) of granodiorite of the Patagonia Mountains
- Tbg—Biotite granodiorite, in granodiorite of the Patagonia Mountains
- Tibx—Intrusion breccia, in granodiorite of the Patagonia Mountains
- Tsy—Syenodiorite or mangerite, in granodiorite of the Patagonia Mountains
- Tag—Biotite augite quartz diorite, in granodiorite of the Patagonia Mountains
- Tmp—Quartz monzonite porphyry of Red Mountain
- TKr—Rhyolite of Red Mountain
- TKggt—Gringo Gulch Volcanics
- Ka—Trachyandesite
- r—Rhyolite or latite, in trachyandesite (unit Ka)
- Km—Pyroxene monzonite
- Kl—Biotite quartz latite(?)
- Kv—Silicic volcanics
- la—Biotite latite(?), in silicic volcanics (unit Kv)
- Kpg—Porphyritic biotite granodiorite
- Kb—Bisbee Formation
- Kbc—Conglomerate, in Bisbee Formation (unit Kb)
- Jtg—Granite of Three R Canyon, in granite of Cumero Canyon
- Jtgb—Breccia, in granite of Three R Canyon (unit Jtg) of granite of Cumero Canyon
- Jcm—Porphyritic granite, in granite of Cumero Canyon
- Jcs—Equigranular alkali syenite, in granite of Cumero Canyon
- Jcsb—Breccia, in equigranular alkalik syenite (unit Jcs) of granite of Cumero Canyon
- Jcg—Equigranular granite, in granite of Cumero Canyon
- Jcgb—Breccia, in equigranular granite (unit Jcg) of granite of Cumero Canyon
- Jhm—Hornblende monzonite of European Canyon
- JTRv—Volcanic rocks, in silicic volcanic rocks
- ha—Hornblende andesite dike and (or) plug, in volcanic rocks (unit JTRv)
- b—Volcanic breccia, in volcanic rocks (unit JTRv)
- s—Sedimentary rocks, in volcanic rocks (unit JTRv)
- cg—Limestone conglomerate, in volcanic rocks (unit JTRv)
- qz—Quartzite, in volcanic rocks (unit JTRv)
- ls—Exotic blocks of upper Paleozoic limestone, in volcanic rocks (unit JTRv)
- w—Rhyolitic welded(?) tuff, in volcanic rocks (unit JTRv)
- lp—Latite(?) porphyry, in volcanic rocks (JTRv)
- JTRvs—Volcanic and sedimentary rocks, in silicic volcanic rocks
- TRm—Mount Wrightson Formation
- q—Quartzite, in Mount Wrightson Formation (unit TRm)
- a—Biotite(?)-albite andesite lava(?), in Mount Wrightson Formation (unit TRm)
- t—Coarse volcaniclastic beds, in Mount Wrightson Formation (unit TRm)
- TRms—Sedimentary rocks, in the Mount Wrightson Formation (unit TRm)
- Pcn—Concha Limestone
- Ps—Scherrer Formation
- Pe—Epitaph Dolomite
- Pc—Colina Limestone
- PPe—Earp Formation
- Ph—Horquilla Limestone
- Me—Escabrosa Limestone
- Dm—Martin Limestone
- Ca—Abrigo Limestone
- Cb—Bolsa Quartzite
- pCq—Biotite or biotite-hornblende quartz monzonite
- pCh—Hornblende-rich metamorphic and igneous rocks
- pCm—Biotite quartz monzonite
- pCd—Hornblende diorite

Figure 4: Taylor Deposit local geology and Exploration Target collar locations

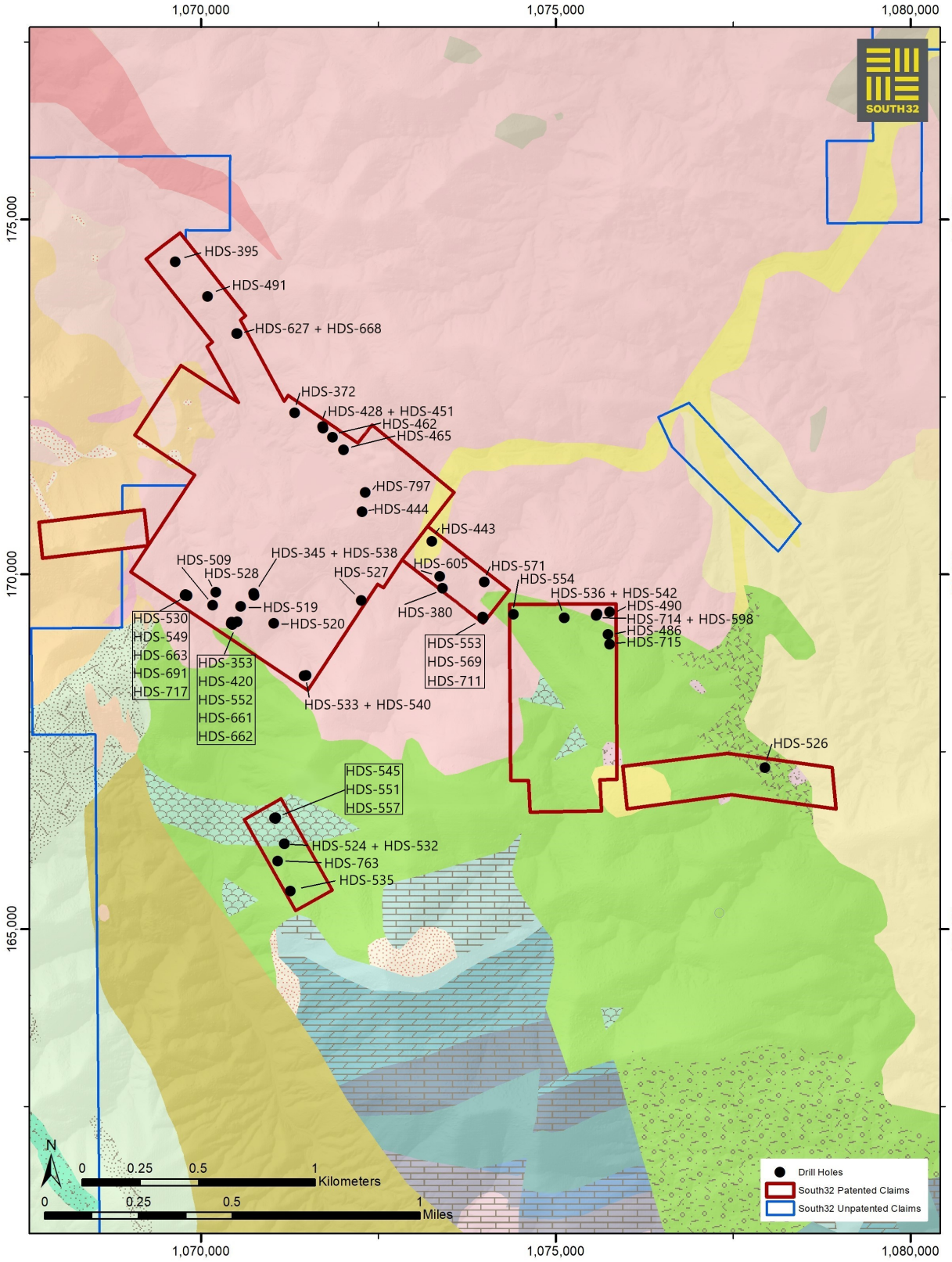


Figure 5: Plan view of the Taylor and Clark Mineralisation Domains with exploration drill holes and the Peake Copper-Skarn Prospect

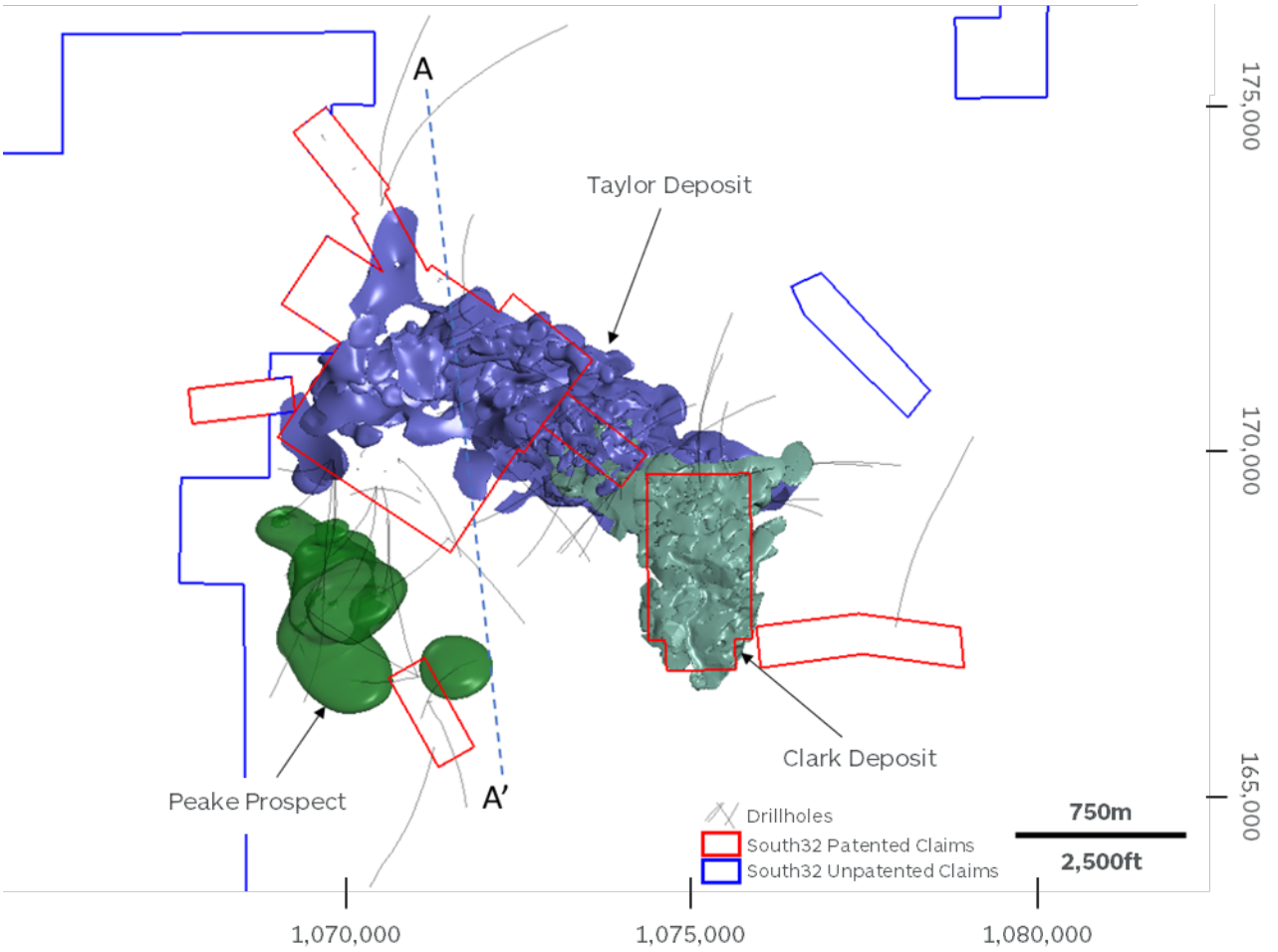


Figure 6: Cross-section through the Taylor and Clark mineralisation domains showing exploration drill holes, simplified geology, Taylor Thrust and the Peake Copper-Skarn Prospect – looking east

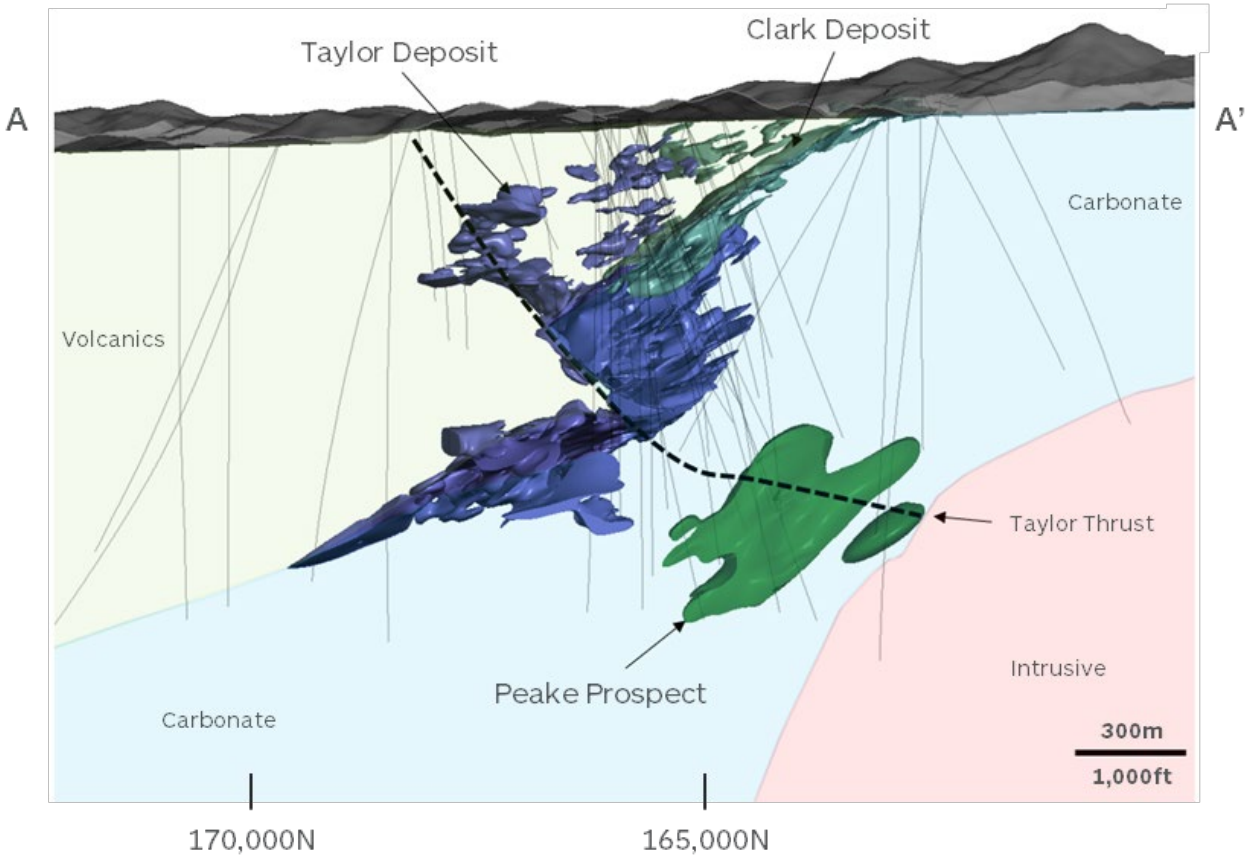


Table 1: Hole ID, collar location, dip, azimuth and drill depth

Hole ID	East (UTM)	North (UTM)	Elevation (m)	Dip	Azimuth	TD Depth (m)
HDS-345	525881	3480733	1603.2	-90	0	1257.9
HDS-353	525781	3480612	1592.8	-90	0	1701.5
HDS-372	526061	3481515	1564.6	-90	0	1780.9
HDS-380	526689	3480757	1580.8	-60	230	1321.9
HDS-395	525553	3482168	1502.4	-90	0	1642.0
HDS-420	525785	3480607	1592.8	-82	85	1372.8
HDS-428	526180	3481454	1578.1	-75	355	1633.6
HDS-443	526645	3480958	1525.9	-45	230	492.9
HDS-444	526347	3481088	1566.2	-65	230	825.1
HDS-451	526182	3481448	1579.4	-75	230	656.7
HDS-462	526223	3481409	1574.6	-75	230	792.8
HDS-465	526268	3481353	1569.8	-75	230	827.2
HDS-486	527398	3480552	1602.0	-75	85	1142.1
HDS-490	527406	3480648	1593.8	-60	70	1126.8
HDS-491	525690	3482016	1501.9	-90	0	1595.0
HDS-509	525701	3480691	1602.1	-90	0	1424.8
HDS-519	525822	3480685	1602.0	-90	0	1422.2
HDS-520	525963	3480611	1573.1	-90	0	1562.7
HDS-524	526002	3479665	1658.8	-90	0	1220.0
HDS-526	528068	3479975	1571.1	-65	15	1617.6
HDS-527	526339	3480706	1542.5	-63	125	1288.4
HDS-528	525716	3480747	1610.3	-90	0	1724.3
HDS-530	525583	3480735	1604.3	-82	230	1446.9
HDS-532	526001	3479666	1659.1	-60	150	1075.9
HDS-533	526092	3480386	1627.3	-65	120	1257.6
HDS-535	526026	3479462	1678.1	-60	190	1419.8
HDS-536	527211	3480625	1567.4	-60	0	1206.1
HDS-538	525878	3480741	1603.3	-70	130	1526.1
HDS-540	526101	3480387	1627.3	-70	220	1528.9
HDS-542	527211	3480624	1567.1	-70	0	1574.0
HDS-545	525960	3479775	1665.7	-60	335	1427.1
HDS-549	525585	3480738	1604.4	-78	200	1813.0
HDS-551	525963	3479774	1665.5	-75	270	1542.6
HDS-552	525806	3480620	1592.9	-70	165	1851.4
HDS-553	526860	3480624	1560.5	-75	220	1524.0
HDS-554	526992	3480642	1550.9	-65	35	1314.9
HDS-557	525963	3479776	1665.5	-60	300	1199.1
HDS-569	526861	3480630	1560.3	-62	205	900.1
HDS-571	526868	3480782	1543.4	-66	45	961.0
HDS-598	527348	3480633	1606.7	-75	333	1287.9
HDS-605	526678	3480806	1575.7	-66	185	1468.4
HDS-627	525814	3481856	1502.2	-60	20	1891.9
HDS-661	525782	3480619	1593.6	-72	179	1981.2
HDS-662	525782	3480619	1593.6	-76	190	1985.2
HDS-663	525592	3480733	1603.6	-70	175	1980.6
HDS-668	525817	3481856	1502.4	-60	20	1905.0
HDS-691	525592	3480734	1603.9	-68	180	2079.0

Hole ID	East (UTM)	North (UTM)	Elevation (m)	Dip	Azimuth	TD Depth (m)
HDS-711	526863	3480628	1560.2	-55	218	776.3
HDS-714	527351	3480641	1606.2	-52	73	1184.8
HDS-715	527404	3480509	1607.7	-65	75	817.2
HDS-717	525592	3480735	1603.9	-70	175	1782.5
HDS-763	525971	3479591	1629.9	-78	15	1943.4
HDS-797	526361	3481170	1560.0	-55	108	551.1

Table 2: Significant intersections

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-345	No significant intersection							
HDS-353	966.2	976.0	2% ZnEq	9.8	12.2	8.2	77	0.69
	Including							
	966.2	971.4	2% ZnEq	5.2	22.0	14.8	130	1.21
HDS-372	312.4	318.5	2% ZnEq	6.1	1.9	0.7	31	0.03
	458.1	463.6	2% ZnEq	5.5	4.8	2.1	90	0.04
HDS-380	878.1	880.4	2% ZnEq	2.3	2.6	1.8	362	0.33
	898.7	906.3	2% ZnEq	7.6	1.0	1.9	142	0.23
HDS-395	448.7	454.3	2% ZnEq	5.6	3.3	3.7	55	0.08
HDS-420	452.5	465.3	2% ZnEq	12.8	2.5	1.1	73	0.11
HDS-428	266.4	269.3	2% ZnEq	2.9	3.6	1.2	108	0.01
	1507.7	1516.5	2% ZnEq	8.8	1.5	1.8	77	0.19
HDS-443	No significant intersection							
HDS-444	691.0	716.6	2% ZnEq	25.6	1.4	0.7	15	0.04
	Including							
	709.3	716.6	2% ZnEq	7.3	3.1	1.2	22	0.04
	790.0	793.1	2% ZnEq	3.1	2.5	1.2	273	0.00
	803.1	809.5	2% ZnEq	6.4	1.5	2.1	69	0.18
HDS-451	351.1	363.3	2% ZnEq	12.2	1.4	0.5	13	0.00
	Including							
	357.8	363.3	2% ZnEq	5.5	1.9	0.8	17	0.01
HDS-462	428.9	432.2	2% ZnEq	3.4	0.9	1.3	48	0.06
HDS-465	322.6	335.6	2% ZnEq	13.0	1.0	0.4	71	0.09
HDS-486	118.0	131.7	2% ZnEq	13.7	0.1	0.9	64	0.04
	155.4	189.6	2% ZnEq	34.1	0.1	0.6	86	0.09
	Including							
	169.8	189.6	2% ZnEq	19.8	0.1	1.0	101	0.15
	249.8	290.9	2% ZnEq	41.1	1.1	1.9	57	0.09
HDS-490	191.1	197.2	2% ZnEq	6.1	0.1	0.4	77	0.08
	364.8	401.4	2% ZnEq	36.6	0.1	1.1	69	0.04
	Including							
	379.5	399.9	2% ZnEq	20.4	0.1	1.6	97	0.05
	442.6	450.2	2% ZnEq	7.6	5.4	0.0	4	0.00
HDS-491	381.9	400.8	2% ZnEq	18.9	13.1	8.3	137	0.39
	Including							
	387.1	399.1	2% ZnEq	12.0	17.3	11.5	171	0.42
HDS-509	846.4	851.0	2% ZnEq	4.6	1.4	0.7	21	0.10
HDS-519	389.2	393.8	2% ZnEq	4.6	0.3	0.3	688	0.33
	731.5	736.1	2% ZnEq	4.6	3.1	1.6	32	0.10

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-520	684.9	689.3	2% ZnEq	4.4	2.7	1.6	39	0.37
	694.9	704.4	2% ZnEq	9.4	1.7	1.7	25	0.08
	1049.0	1053.7	2% ZnEq	4.7	1.5	1.7	37	0.37
HDS-524	No significant intersection							
HDS-526	46.3	52.7	2% ZnEq	6.4	0.0	0.1	100	0.01
	61.3	84.4	2% ZnEq	23.2	0.0	0.3	113	0.03
HDS-527	191.1	200.3	2% ZnEq	9.1	1.2	0.9	23	0.00
HDS-528	No significant intersection							
HDS-530	840.3	846.4	0.2% Cu	6.1	0.1	0.0	13	0.59
	904.3	910.4	0.2% Cu	6.1	0.3	0.1	14	0.39
	1407.6	1419.1	2% ZnEq	11.6	1.8	1.1	68	0.24
HDS-532	76.5	83.8	2% ZnEq	7.3	1.3	0.8	193	0.15
HDS-533	No significant intersection							
HDS-535	No significant intersection							
HDS-536	No significant intersection							
HDS-538	1445.4	1451.9	2% ZnEq	6.6	0.1	1.2	74	0.03
HDS-540	1279.2	1389.0	0.2% Cu	109.7	0.1	0.3	15	0.62
	Including							
	1303.6	1309.7	0.2% Cu	6.1	0.2	0.4	61	3.48
	1469.7	1488.0	0.2% Cu	18.3	0.0	0.0	10	0.63
HDS-542	128.6	133.2	2% ZnEq	4.6	0.0	0.5	80	0.03
	800.3	809.9	2% ZnEq	9.6	0.8	0.8	30	0.00
HDS-545	No significant intersection							
HDS-549	1169.5	1175.6	0.2% Cu	6.1	1.5	1.6	312	1.92
HDS-551	1100.6	1111.6	0.2% Cu	11.0	0.0	0.2	10	0.39
	1254.9	1280.8	0.2% Cu	25.9	0.0	0.0	10	0.54
	1294.5	1372.8	0.2% Cu	78.3	0.0	0.1	10	0.51
HDS-552	709.3	714.8	0.2% Cu	5.5	11.2	5.5	64	0.12
	1265.8	1273.9	0.2% Cu	8.1	0.2	0.5	27	0.39
	1308.2	1384.7	0.2% Cu	76.5	0.2	0.4	25	1.52
	Including							
	1309.9	1328.6	0.2% Cu	18.8	0.1	0.2	40	2.77
	And							
	1364.3	1384.7	0.2% Cu	20.4	0.1	0.3	37	2.44
	Including							
	1375.3	1384.7	0.2% Cu	9.5	0.1	0.3	62	4.45
	1478.9	1484.8	0.2% Cu	5.9	1.0	1.5	57	0.41
HDS-553	315.8	340.5	2% ZnEq	24.7	3.4	3.3	266	0.32
	Including							
	315.8	325.2	2% ZnEq	9.4	3.9	8.5	654	0.81
	332.8	340.5	2% ZnEq	7.6	5.8	0.1	40	0.03
HDS-554	181.7	197.8	2% ZnEq	16.2	0.4	5.8	139	0.06
	1138.3	1140.9	2% ZnEq	2.6	3.9	6.4	152	0.03
HDS-557	No significant intersection							
HDS-569	142.3	147.2	2% ZnEq	4.9	3.6	2.4	61	0.03
HDS-571	134.4	166.4	2% ZnEq	32.0	0.7	0.8	94	0.12
	691.6	698.9	2% ZnEq	7.3	4.7	3.4	56	0.14
	743.3	750.7	2% ZnEq	7.5	7.6	18.5	296	0.11
HDS-598	No significant intersection							

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-605	447.1	452.9	2% ZnEq	5.8	2.6	0.9	116	0.19
	512.2	531.6	2% ZnEq	19.4	0.2	1.2	51	0.08
	842.5	845.8	2% ZnEq	3.4	2.1	2.4	196	0.30
HDS-627	349.9	354.5	2% ZnEq	4.6	15.2	14.9	459	0.21
HDS-661	1298.4	1305.2	2% ZnEq	6.7	0.6	3.4	249	0.89
	1322.2	1374.6	0.2% Cu	52.4	0.1	1.1	105	1.73
	Including							
	1322.2	1346.0	0.2% Cu	23.8	0.1	0.8	81	3.32
	And							
	1322.2	1330.1	0.2% Cu	7.9	0.1	0.4	81	7.89
	1386.8	1460.6	0.2% Cu	73.8	0.5	0.7	67	1.06
	Including							
	1399.6	1410.3	0.2% Cu	10.7	0.7	1.5	227	2.84
	1555.1	1573.1	0.2% Cu	18.0	3.2	1.4	87	0.37
HDS-662	1316.4	1329.2	0.2% Cu	12.8	3.4	4.4	137	0.95
	1540.8	1546.7	2% ZnEq	5.9	5.9	2.1	250	0.45
HDS-663	1580.1	1591.8	0.2% Cu	11.7	0.1	0.0	16	0.95
	1615.9	1651.1	0.2% Cu	35.2	1.1	0.1	27	0.56
HDS-668	201.2	211.8	2% ZnEq	10.7	5.5	3.9	270	0.13
	221.0	233.2	2% ZnEq	12.2	5.7	3.9	129	0.03
	699.5	713.2	2% ZnEq	13.7	1.3	4.2	134	0.06
HDS-691	1343.6	1353.6	2% ZnEq	10.1	3.8	3.5	61	0.47
	1384.7	1395.4	0.2% Cu	10.7	2.7	2.9	38	1.03
	1405.9	1415.2	0.2% Cu	9.3	0.5	0.7	11	0.26
	1421.3	1452.1	0.2% Cu	30.8	0.7	0.8	22	0.59
	1463.6	1509.7	0.2% Cu	46.0	0.4	0.5	21	0.43
	1540.6	1549.3	0.2% Cu	8.7	0.3	0.9	51	0.61
	1563.9	1581.3	0.2% Cu	17.4	0.2	0.2	23	0.55
	1662.7	1677.9	0.2% Cu	15.2	2.8	1.1	155	1.19
	1683.4	1692.6	2% ZnEq	9.1	1.5	0.3	45	0.13
	1732.0	1735.2	2% ZnEq	3.2	6.2	0.3	107	0.18
	1994.6	1997.4	2% ZnEq	2.7	1.7	0.3	54	0.08
HDS-711	150.6	153.9	2% ZnEq	3.4	1.9	1.0	244	0.34
HDS-714	372.5	377.0	2% ZnEq	4.6	0.0	1.1	87	0.04
	410.6	415.1	2% ZnEq	4.6	0.0	1.2	65	0.02
	627.9	632.5	2% ZnEq	4.6	2.1	3.6	111	0.06
	682.8	688.8	2% ZnEq	6.1	3.0	3.9	109	0.09
HDS-715	119.5	127.4	2% ZnEq	7.9	0.0	1.7	53	0.05
	167.3	196.0	2% ZnEq	28.7	3.7	0.5	176	0.23
	Including							
	172.8	180.8	2% ZnEq	8.0	7.1	1.2	218	0.71
	300.1	342.3	2% ZnEq	42.2	2.1	1.8	94	0.09
	Including							
	333.3	342.3	2% ZnEq	9.0	6.8	0.7	42	0.08
	563.9	575.3	2% ZnEq	11.4	3.7	3.6	188	0.16
	Including							
	565.4	571.5	2% ZnEq	6.1	4.5	5.4	290	0.19
	591.3	598.9	2% ZnEq	7.6	4.7	2.1	92	0.14
	780.3	787.9	2% ZnEq	7.6	0.2	0.1	96	0.01

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-717	1065.3	1072.4	0.2% Cu	7.2	3.5	2.7	22	0.21
	1306.1	1318.3	0.2% Cu	12.2	1.8	1.8	63	0.82
	1444.1	1466.7	0.2% Cu	22.6	1.7	1.7	46	1.38
	Including							
	1456.6	1466.7	0.2% Cu	10.1	0.5	1.0	78	2.57
	1517.9	1522.2	2% ZnEq	4.3	3.0	1.8	49	0.03
	1718.6	1727.0	0.2% Cu	8.4	1.0	0.1	39	1.99
	1754.1	1763.3	2% ZnEq	9.1	1.4	0.5	42	0.13
HDS-763	1429.8	1439.6	2% ZnEq	9.8	2.3	0.1	3	0.02
HDS-797	No significant intersection							

Annexure 2: Material Assumptions for the Production Target and Forecast Financial Information

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The Production Target is based on 20% Measured, 62% Indicated, 14% Inferred Mineral Resources and 4% Exploration Target. The Mineral Resources were declared as part of South32's Annual declaration of resources and reserves in the Annual Report published on 3 September 2021 and is available to view on www.south32.net. The details of the Exploration Target are included in this announcement (Annexure 1).
Study status	• A pre-feasibility study has been completed for the Taylor Deposit in compliance with the AACE International Class 4 estimate standard. • A technically achievable and economically viable mine plan has been determined by the study team. Material Modifying Factors have been considered and are included in this section of the report.
Cut-off parameters	• Taylor is a polymetallic deposit which uses an equivalent NSR value as a grade descriptor. NSR considers the remaining gross value of the in-situ revenue generating elements once processing recoveries, royalties, concentrate transport, refining costs and other deductions have been considered. • The elements of economic interest used for cut-off determination include silver (Ag), lead (Pb) and zinc (Zn). • The cut-off strategy employed at Taylor is to optimise the NPV of the operation. • An NSR cut-off grade of US$90/tonne was used in the development of mineable stope shapes.
Mining factors or assumptions	• The mining method applied is longhole open stoping with paste backfill. This is the preferred mining method based on a combination of productivity, cost, resource recovery and risk of surface subsidence. • Geotechnical recommendations based on deposit geology have been used to develop the stope shape dimensions. • The mining dilution is applied based on rock dilution or fill dilution dependent on the location of the stope being mined. Dilution factors are applied on a stope by stope basis using incremental dilution widths applied to the stope geometry. • The mining recovery factor is 95% and is applied to all ore tonnes. • Inferred Mineral Resources are incorporated into the stope designs and contribute to the overall weighted grades and NSR of the stope. Inferred Mineral Resources contribute approximately 14% and the Exploration Target contributes 4% of the total planned tonnes. A risk assessment was completed considering Inferred Mineral Resources and the Exploration Target as waste to ensure that the Production Target and forecast financial information as stated can be achieved. Accordingly, the Company believes it has a reasonable basis for reporting a Production Target including those Inferred Mineral Resources and the Exploration Target. • Primary access to the orebody will be through a main shaft and a ventilation shaft. Ore passes, haulage levels and ventilation raises will be established to move material internally within the mine and provide ventilation and cooling. Paste backfill will be produced in a surface backfill plant and distributed underground via a backfill reticulation system. • The proposed mining method with modifying factors applied supports a single-stage ramp-up to the preferred development scenario of up to 4.3Mt per annum.
Metallurgical factors or assumptions	• The Taylor processing plant will consist of well-established processing techniques. Primary crushing will be conducted underground, and crushed ore will be hoisted to the surface. Grinding will be conducted by a single-stage AG mill to a size suitable for flotation. Sequential flotation will be followed by pressure filtration for concentrates and tailings. • Metallurgical recovery is found to vary by geological domain and recovery ranges are applied based on geologic formation. Average process recoveries are: 90% for zinc in zinc concentrate; 91% for lead in lead concentrate and 81% for silver in lead concentrate. • Lead is found to occur primarily as galena and zinc is found to occur primarily as sphalerite with small amounts of non-sulphide zinc occurring in the geological domains close to surface. Galena and sphalerite are coarse grained and easily liberated for effective recovery by sequential flotation.

Criteria	Commentary
	• Manganese occurs in relatively high concentrations in gangue and can occur as an inclusion of sphalerite especially in the higher geological domains. This can cause manganese in zinc concentrate to exceed penalty limits for most smelters. No other deleterious elements are expected to exceed penalty limits for lead or zinc concentrates. • Metallurgical test work has been conducted using samples covering the ore body vertically and horizontally. All metallurgical test work and the process design have been reviewed by independent consultants.
Environmental factors or assumptions	• The project consists of patented claims surrounded by the Coronado National Forest and unpatented claims located within the surrounding Coronado National Forest and managed by the United Sates Forest Service. • A permitting schedule has been developed for obtaining critical state and federal approvals. • Waste rock generated from surface and underground excavations is delineated into potentially acid generating (PAG) or non-acid generating (NAG) rock. All PAG material will report to a lined facility as will most of the NAG material, except for a limited amount that will be used for construction material. • The tailings storage facilities have been designed in accordance with South32's Dam Management Standard and consistent with the International Council on Mining and Metals (ICMM) Tailings Governance Framework, in addition to the Australian National Committee on Large Dams (ANCOLD) guidelines. • Tailings from processing will be filtered and stored in purpose-built, lined, surface storage facilities or returned underground in the form of paste backfill. An existing tailings storage facility on patented claims will be used to store tailings from early operations.
Infrastructure	• Current site activity is supported by and consists of office buildings, core processing facilities, an existing tailings storage facility as part of the voluntary remediation program, a water treatment plant, ponds, road networks and laydown yards. • Planned infrastructure will be installed to support future operations and will consist of: o Dual shafts o Ventilation and refrigeration systems o Process comminution, flotation and concentrate loadout o Tailings filtration plant and tailings storage facilities o Paste backfill plant o Dewatering wells, another water treatment plant and pipelines o Surface shops, fuel bays, wash bays and office buildings o Powerlines and substations o Surface stockpile bins o Underground maintenance shops and ore/waste storage • A site layout plan and construction schedule support the above listed infrastructure.
Costs	• The capital cost estimate is supported by sufficient engineering scope and definition for preparation of a AACE International Class 4 estimate. • The operating cost estimate was developed in accordance with industry standards and South32 project requirements. o Mining costs were calculated primarily from first principles and substantiated by detailed labour rate calculations, vendor-provided equipment operating costs and budgetary quotations for materials and consumables. o Processing costs account for plant consumables/reagents, labour, power and maintenance materials and tailings storage facility costs. o General and administrative costs are based on current operating structures and optimised based on industry benchmarks and fit-for-purpose sizing. Permitting and environmental estimates are based on current permitting timelines. • Commodity price forecasts for silver, lead and zinc and foreign exchange are supplied by South32 Marketing. Price assumptions reflect South32's view on demand, supply, volume forecasts and competitor analysis. Price protocols will not be detailed as the information is commercially sensitive. • Transportation charges have been estimated using information on trucking costs, rail costs, export locations, transload capabilities and transit time associated with moving concentrate from site to port to market.

Criteria	Commentary
	• Treatment and Refining Charges used for the valuation are supplied by South32 Marketing and reflect South32's view on demand, supply, volume forecasts and competitor analysis. • Applicable royalties and property fees have been applied using on the current US federal and state rates.
Revenue factors	• The life of operation plan derived from the pre-feasibility study provides the mining and processing physicals such as volume, tonnes and grades to support the valuation. • Revenue is calculated by applying forecast metal prices and foreign exchange rates to the scheduled payable metal. Metal payabilities are based on contracted payability terms, typical for the lead and zinc concentrate markets.
Market assessment	• Internal price protocols reflect South32's view on demand, supply, and stock situations including customer analysis, competitor analysis and identification of major market windows and volume forecasts.
Economic	• Economic inputs are described in the cost, revenue and metallurgical factors commentary. • Sensitivity analyses have been completed on metal prices, metallurgical recoveries, mine operating costs, growth capital costs and use of Inferred Mineral Resources and the Exploration Target to understand the value drivers and impact on the valuation. • The pre-feasibility study evaluated alternate cases to assess the impact of longer than expected permitting timelines and associated capital spend profiles.
Social	• South32 maintains relationships with stakeholders in its host communities through structured and meaningful engagement activities including: community forums, industry involvement, employee participation, local procurement and local employment. • A Community Management Plan has been developed in accordance with the South32 Community Standard and includes baseline studies, community surveys, risk assessments, stakeholder identification, engagement plans, cultural heritage, community investment plans, closure and rehabilitation.
Other	• Hermosa has developed a comprehensive risk register and risk management system to address foreseeable risks that could impact the project and future operations. • No material naturally occurring risks have been identified and the project is not subject to any material legal agreements or marketing arrangements.

17 January 2022

South32 Limited
(Incorporated in Australia under the *Corporations Act 2001* (Cth))
(ACN 093 732 597)
ASX / LSE / JSE Share Code: S32 ADR: SOUHY
ISIN: AU000000S320
south32.net

HERMOSA PROJECT UPDATE PRESENTATION

South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) (South32) will hold a conference call at 11:00am Australian Western Standard Time (2:00pm Australian Eastern Daylight Time) on 17 January 2022 to provide an update of the Hermosa project including Q&A, the details of which are as follows:

Conference ID:

Please pre-register for this call at link.

A presentation is attached. Following the conference call a recording will be available on the South32 website (https://www.south32.net/investors-media/investor-centre/presentations-reports-speeches).

About us

South32 is a globally diversified mining and metals company. Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources. We produce bauxite, alumina, aluminium, metallurgical coal, manganese, nickel, silver, lead and zinc at our operations in Australia, Southern Africa and South America. With a focus on growing our base metals exposure, we also have two development options in North America and several partnerships with junior explorers around the world.

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Approved for release by Graham Kerr, Chief Executive Officer
JSE Sponsor: UBS South Africa (Pty) Ltd
17 January 2022

HERMOSA PROJECT UPDATE

17 January 2022

IMPORTANT NOTICES

This presentation should be read in conjunction with the “Hermosa Project Update” announcement released on 17 January 2022, which is available on South32’s website (www.south32.net) and any other disclosures made to the stock exchanges since this date. Figures in italics indicate that an adjustment has been made since the figures were previously reported.

FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements, including statements about trends in commodity prices and currency exchange rates; demand for commodities; production forecasts; plans, strategies and objectives of management; capital costs and scheduling; operating costs; anticipated productive lives of projects, mines and facilities; and provisions and contingent liabilities. These forward-looking statements reflect expectations at the date of this presentation, however they are not guarantees or predictions of future performance or statements of fact. They involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this presentation. Readers are cautioned not to put undue reliance on forward-looking statements. South32 makes no representation, assurance or guarantee as to the accuracy or likelihood or fulfilment of any forward-looking statement or any outcomes expressed or implied in any forward-looking statement. Except as required by applicable laws or regulations, the South32 Group does not undertake to publicly update or review any forward-looking statements, whether as a result of new information or future events. Past performance cannot be relied on as a guide to future performance. South32 cautions against reliance on any forward-looking statements or guidance, particularly in light of the current economic climate and the significant volatility, uncertainty and disruption arising in connection with COVID-19. The denotation (e) refers to an estimate or forecast year.

NON-IFRS FINANCIAL INFORMATION

This presentation includes certain non-IFRS financial measures, including Underlying earnings, Underlying EBIT and Underlying EBITDA, Basic Underlying earnings per share, Underlying effective tax rate, Underlying EBIT margin, Underlying EBITDA margin, Underlying return on invested capital, Free cash flow, net debt, net cash, net operating assets, Operating margin and ROIC. These measures are used internally by management to assess the performance of our business, make decisions on the allocation of our resources and assess operational management. Non-IFRS measures have not been subject to audit or review and should not be considered as an indication of or alternative to an IFRS measure of profitability, financial performance or liquidity.

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NO FINANCIAL OR INVESTMENT ADVICE – SOUTH AFRICA

South32 does not provide any financial or investment 'advice' as that term is defined in the South African Financial Advisory and Intermediary Services Act, 37 of 2002.

MINERAL RESOURCES AND ORE RESERVES

Clark Deposit scoping study cautionary statement: The scoping study referred to in this presentation is based on low-level technical and economic assessments and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the scoping study will be realised. The study is based on 60% Indicated and 40% Inferred Mineral Resources (refer to footnotes (slide 29) for cautionary statement)..

Production Targets cautionary statement: The information in this presentation that refers to Production Target and forecast financial information is based on Measured (20%), Indicated (62%), Inferred (14%) Mineral Resources and Exploration Target (4%) for the Taylor Deposit. The Mineral Resources underpinning the Production Target have been prepared by a Competent Person in accordance with the JORC Code (refer to footnotes (slide 29) for cautionary statement). All material assumptions on which the Production Target and forecast financial information is based is provided in the "Hermosa Project Update" announcement released on 17 January 2022. There is low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Production Target will be realised. The potential quantity and grade of the Exploration Target is conceptual in nature. In respect of Exploration Target used in the Production Target, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of Mineral Resources or that the Production Target itself will be realised. The stated Production Target is based on South32’s current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met. South32 confirms that inclusion of 18% of tonnage (14% Inferred Mineral Resources and 4% Exploration target) is not the determining factor of the project viability and the project forecasts a positive financial performance when using 82% tonnage (20% Measured and 62% Indicated Mineral Resources). South32 is satisfied, therefore, that the use of Inferred Mineral Resources and Exploration Target in the Production Target and forecast financial information reporting is reasonable.

Competent Persons Statement and cautionary statement – Exploration Results and Exploration Target: The information in this presentation that relates to Exploration Results and Exploration Targets for Hermosa (including Peake) was declared in the "Hermosa Project Update" announcement released on 17 January 2022 and is prepared by a Competent Person in accordance with the requirements of the JORC Code. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. South32 confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement. In respect of those Exploration Targets, The potential quantity and grade is conceptual in nature. There has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of Mineral Resources.

HERMOSA HIGHLIGHTS

Taylor PFS demonstrates its potential to be Hermosa's first development and deliver attractive returns over multiple stages

A low carbon, low impact option in the first quartile of the industry's cost curve

Preferred configuration of a conventional 4.3Mtpa plant and dual shaft access[(a)]

Potential to be a globally significant producer of metals critical to a low carbon future

Located in Arizona, USA close to infrastructure, skilled service providers and supply chains

Taylor's large Mineral Resource remains open, while activities to unlock value from Clark and our regional exploration are continuing

Notes:
a. Refer to important notices (slide 2) for additional disclosure.

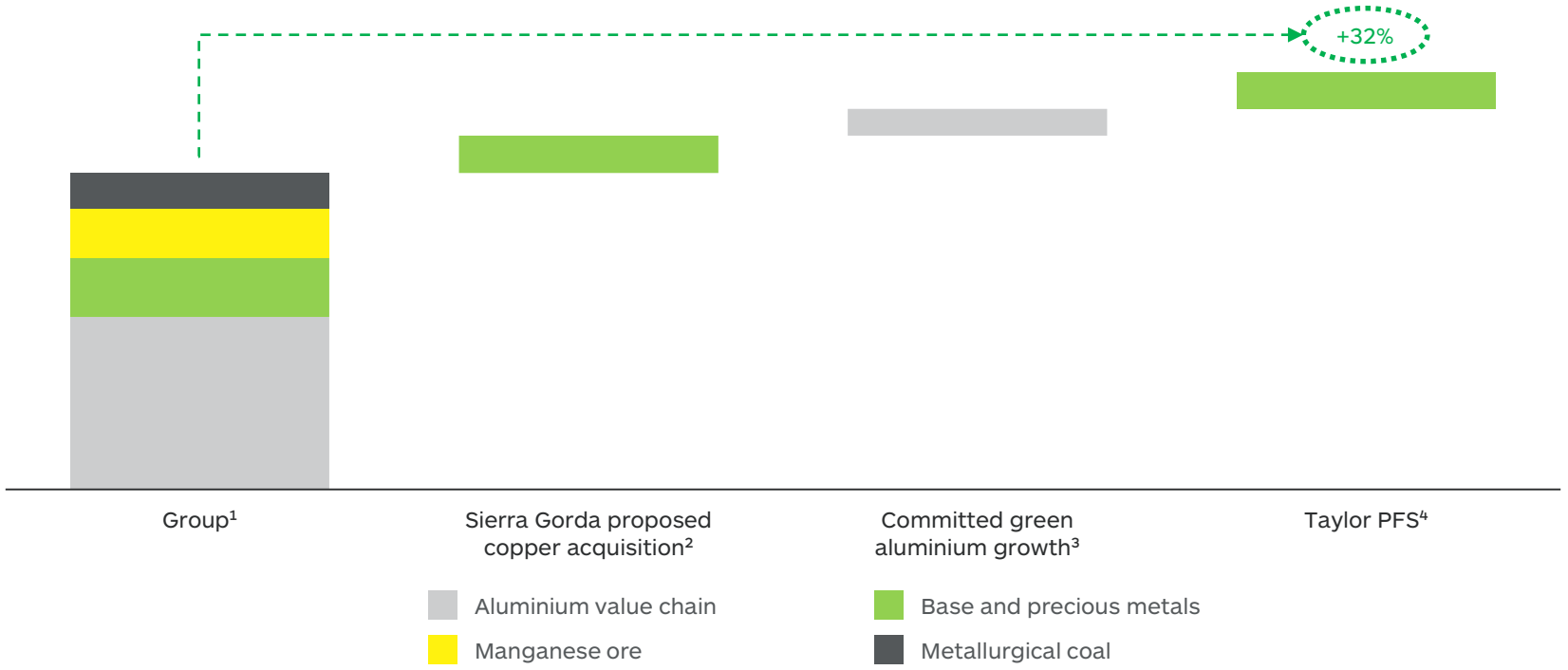
RESHAPING OUR PORTFOLIO

Taylor's development[(a)] would further increase our leverage to the metals critical to a low carbon future

We have substantial production growth focused on green metals

Our portfolio already has significant exposure to the commodities which benefit from the uptake of low carbon technologies

Illustrative Group production profile[(b)]
US$M revenue equivalent at FY21 realised prices

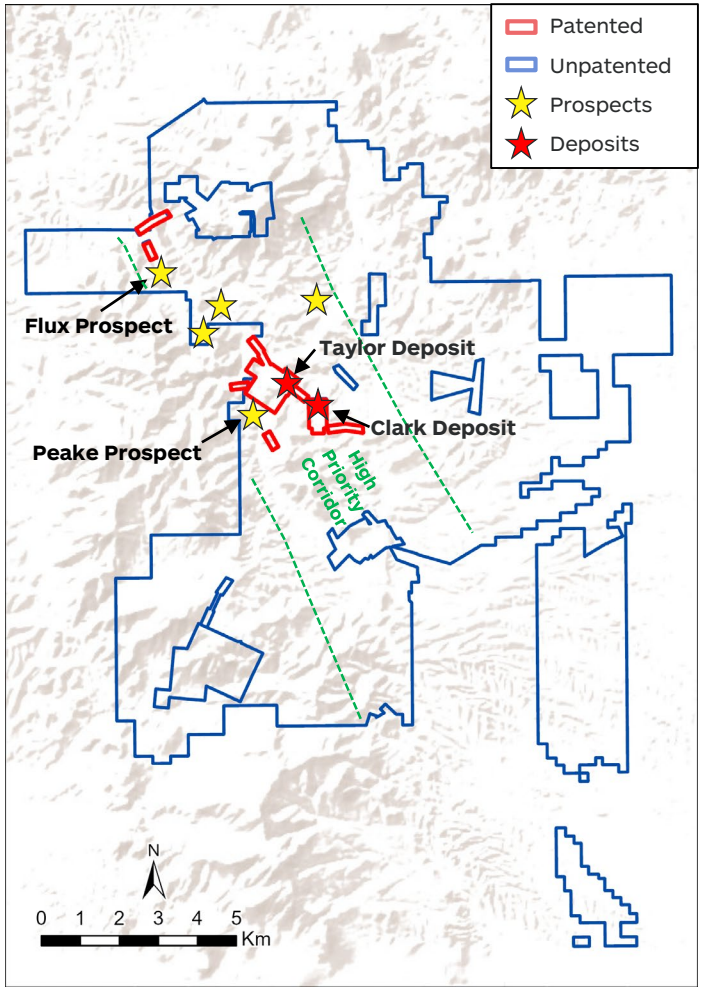


Notes:
a. Refer to important notices (slide 2) for additional disclosure.
b. Illustrative production growth is calculated using FY21 realised prices.

HERMOSA PROJECT

A large regional landholding hosting multiple development options and exploration targets

Hermosa land package



Taylor is an attractive base metals development option

- 138Mt zinc-lead-silver sulphide Mineral Resource with a Hermosa Exploration Target ranging from 10 to 95Mt[(a)]
- PFS demonstrates potential for a sustainable, low cost operation with 20+ year initial resource life[(b)]
- Final investment decision expected in mid CY23

Clark offers the separate potential to produce a battery-grade manganese product for North America

- 55Mt zinc-manganese-silver oxide Mineral Resource[(b)]
- Scoping study[(a)] has confirmed the potential to produce battery-grade manganese into rapidly-growing markets
- Manganese listed as a critical mineral in the United States
- Studies to consider a potential integrated development of Taylor and Clark, unlocking operating and capital synergies

A highly prospective land package

- Since acquisition, we have increased our tenure by 66%, consolidating the most prospective areas
- Through soil sampling, geophysics and mapping, we have defined a highly prospective corridor
- High-grade copper-lead-zinc-silver mineralisation intersected at the Peake prospect, south of the Taylor Deposit
- Planning to drill the Flux prospect in late CY22, located down-dip of an historic mining area

Notes:
a. Refer to important notices (slide 2) for additional disclosure.
b. Refer to footnotes (slide 29) for additional disclosure.

OUR APPROACH TO HERMOSA'S SUSTAINABLE DEVELOPMENT

Our commitment to sustainable development is embedded in our approach to project development

Partnering with local communities

- We are investing in local programs and partnerships that reflect the priorities of the communities around Hermosa
- We have established local procurement and employment plans

Preserving cultural heritage

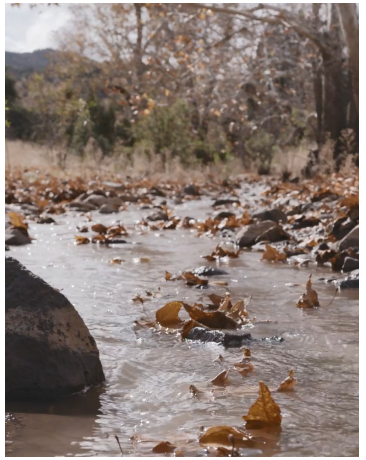
- We are committed to working with Native American tribes to protect cultural resources
- We have completed initial surveys for cultural resources on both our patented lands and unpatented mining claims

Managing our environmental impact

- We have established an environmental management plan and completed key studies for biodiversity, ecosystems and water
- We have established a state-of-the-art dry stack tailings facility
- We have a strong focus on water management and minimising surface footprint in the PFS design

Targeting a carbon neutral development

- A low carbon intensity operation with a pathway to net zero
- Potential to access 100% renewable energy from local providers
- Studying options to use battery electric vehicles and mining equipment



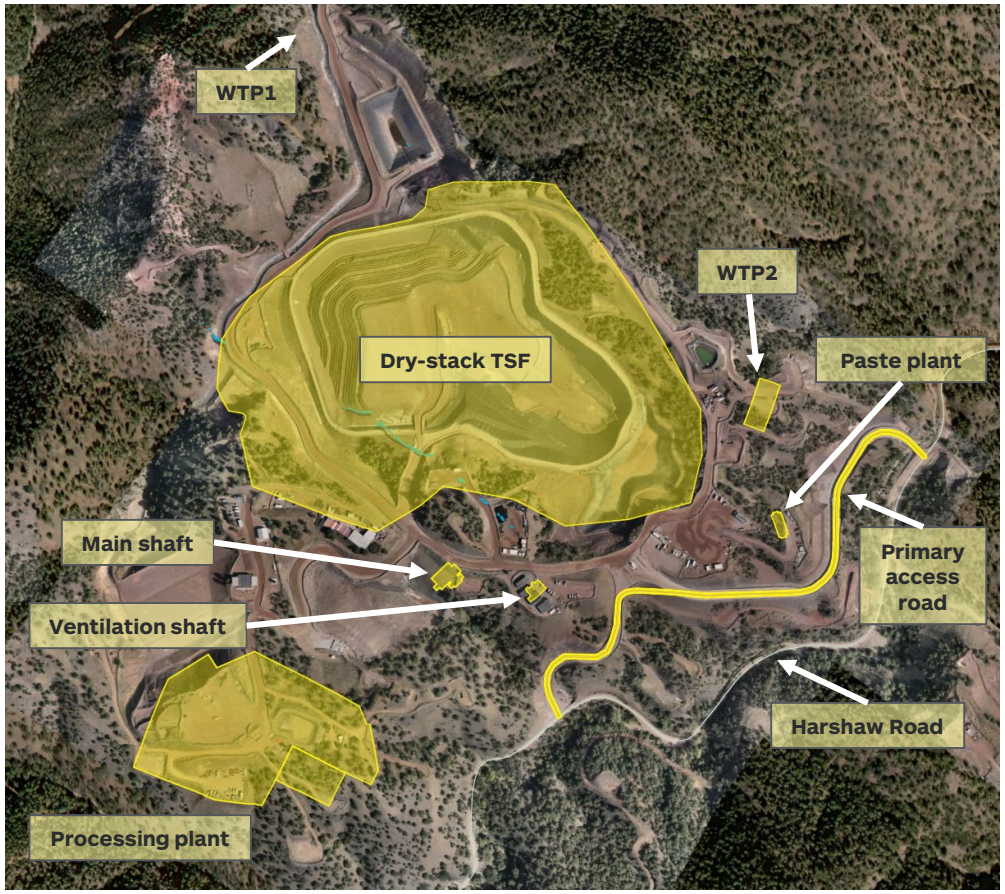
TAYLOR PFS SUMMARY

Potential for a large scale, low-cost, multi-decade operation adopting a conventional processing circuit

PFS summary information

Mine design	Longhole open stoping underground mine with paste backfill plant
Process design	Conventional sulphide ore flotation circuit
Nameplate capacity	Up to 4.3Mtpa in the preferred PFS development scenario[(a)]
Products	Zinc and lead concentrates, with silver credits
Resource life	~22 years
Head grades	~4.1% Zn, ~4.5% Pb, ~82 g/t Ag
Recoveries	~90% Zn, ~91% Pb, ~81% Ag (in Pb concentrate)
Metal payability	~85% Zn, ~95% Pb, ~95% Ag (in Pb concentrate)
Annual payable zinc production	~111kt
Annual payable lead production	~138kt
Annual payable silver production	~7.3Moz
Annual payable ZnEq production[5]	~280kt
Operating unit costs	~US$81/t ore milled
Operating unit costs	~US$(0.71)/lb ZnEq
Growth capital	~US$1,700M comprising ~US$1,230M (direct) & ~US$470M (indirect)
Sustaining capital	~US$40M per annum
Fiscal terms	Corporate tax rate ~26%[6]

Taylor site map

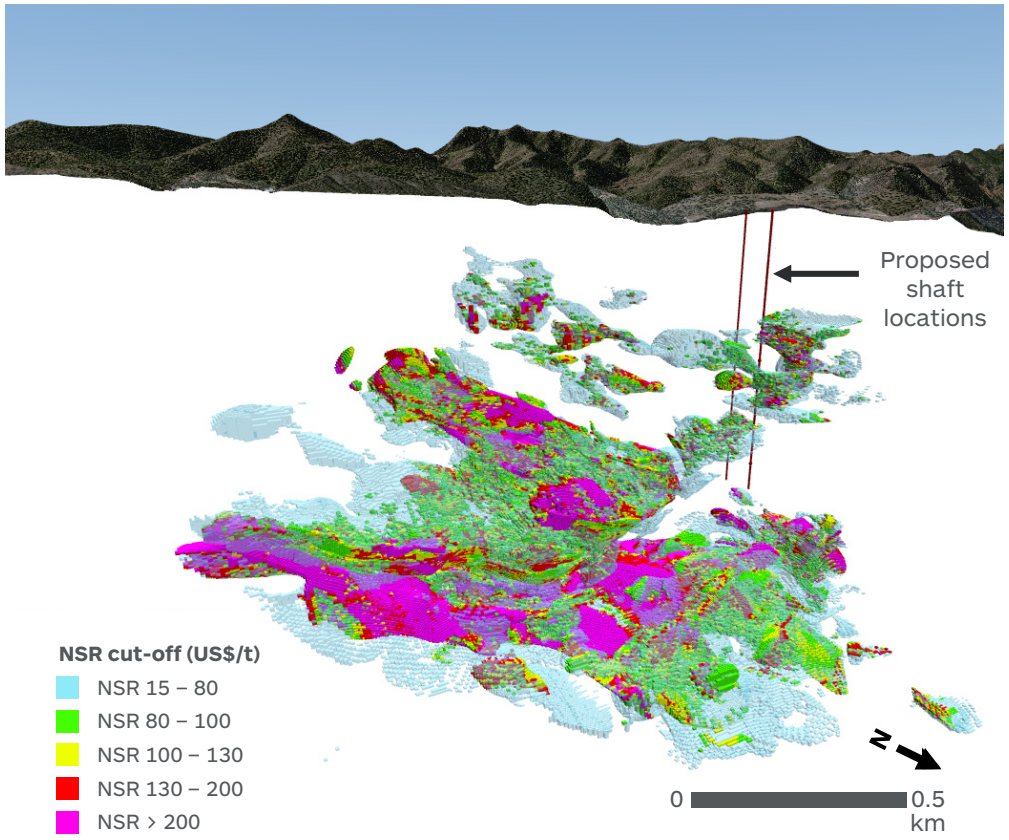


Notes:
a. Refer to important notices (slide 2) for additional disclosure.

TAYLOR MINERAL RESOURCE

Taylor's large Mineral Resource is expected to underpin Hermosa's first phase of development

Taylor Deposit geology and mineralisation (looking south-west)



Taylor Deposit

- 138Mt Mineral Resource with a zinc equivalent grade of 8.61%[(a)]
- Large orebody with a strike length of ~2.5km and width of ~1.9km
- Extends to a depth of ~1.2km
- Comprises the upper Taylor sulphide and lower Taylor deeps domains that have a general northerly dip of 30°
- Orebody geometry enables concurrent mining from multiple independent areas, supporting the potential for high productivity and throughput

Taylor Deposit Mineral Resource

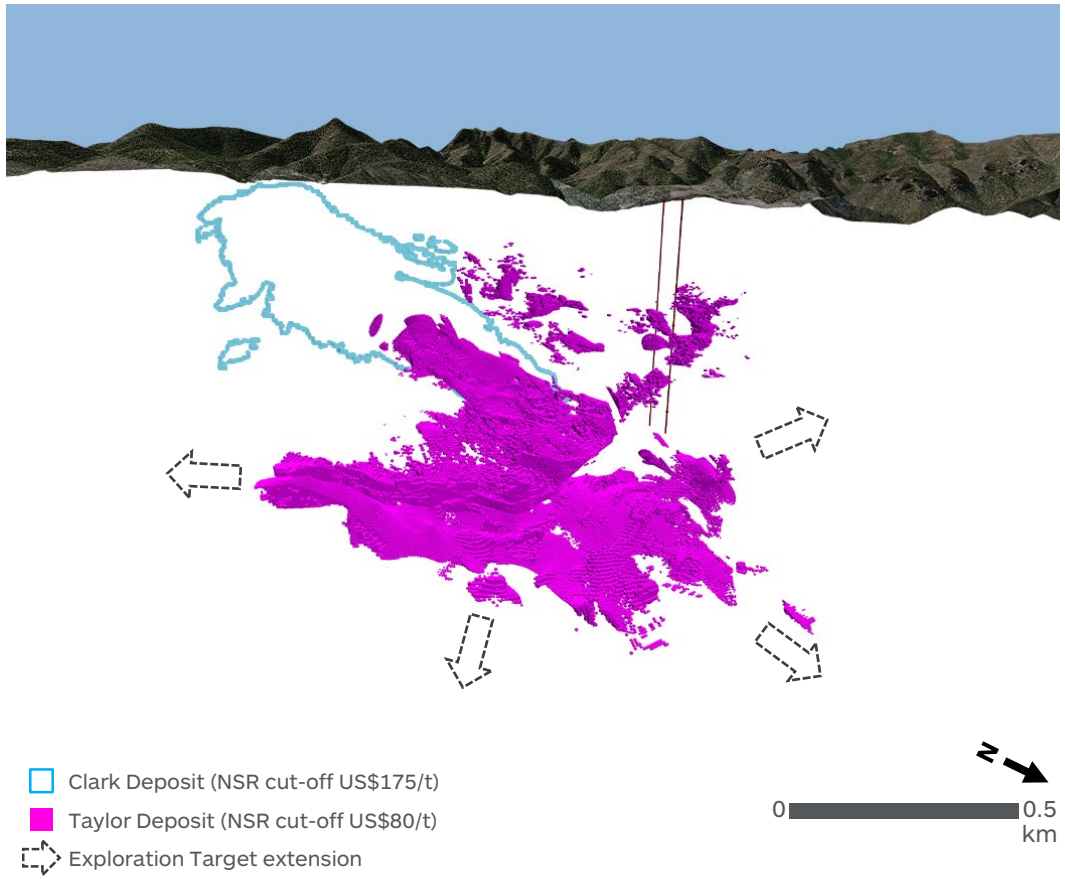
Classification	Mt	Zn (%)	Pb (%)	Ag (g/t)	ZnEq (%)
Measured	29	4.10	4.05	57	8.25
Indicated	86	3.76	4.44	86	8.79
Measured and Indicated	**115**	**3.85**	**4.34**	**79**	**8.65**
Inferred	24	3.73	3.82	91	8.41
Total	**138**	**3.82**	**4.25**	**81**	**8.61**

Notes:
a. Refer to footnotes (slide 29) for additional disclosure.

HERMOSA EXPLORATION POTENTIAL

Our resource range analysis work supports the potential for further resource growth

Taylor Deposit and Exploration Target



- A highly prospective mineralised system, open at depth and laterally
- We have completed resource range analysis work aimed at developing an unconstrained, spatial view of the Exploration Target at Taylor, considering extensional and near-mine exploration potential
- Our resource range analysis utilises deterministic estimates of potential volumes and grades using assumptions for continuity and extension consistent with available data and models
- Exploration Target ranges from 10 to 95Mt, with a mid case of ~45Mt

Exploration Target[(a)(b)]

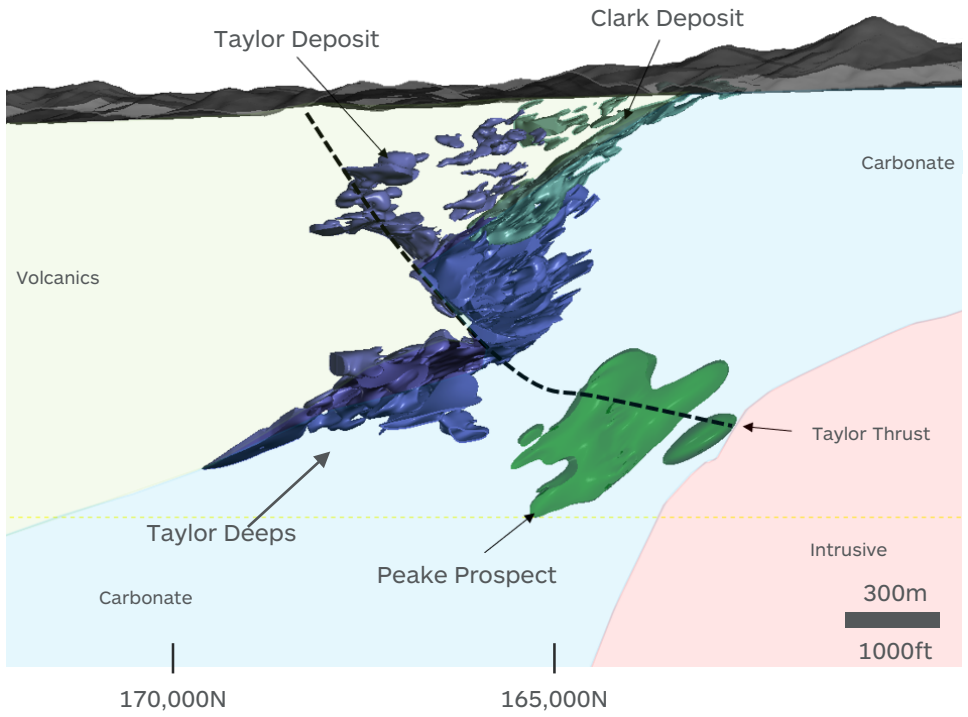
	Low Case				Mid Case				High Case			
	Mt	% Zn	% Pb	g/t Ag	Mt	% Zn	% Pb	g/t Ag	Mt	% Zn	% Pb	g/t Ag
Sulphide	**10**	**3.8**	**4.2**	**81**	**45**	**3.4**	**3.9**	**82**	**95**	**3.6**	**4.0**	**79**

Notes:
a. Refer to important notices (slide 2) for additional disclosure.
b. Cut-off grade: NSR of US$80/t.

HERMOSA EXPLORATION POTENTIAL

A new exploration target prospective for copper mineralisation

Peake prospect



Peake prospect[(a)]

- Exploration drilling has identified near-mine exploration targets, including the Peake prospect
- High-grade copper-lead-zinc-silver mineralisation has been intersected at the skarn hosted Peake prospect, south of the Taylor Deposit
- Interpretation of these results and recently acquired data indicates the potential for a continuous structural and lithology controlled system connecting Taylor Deeps and Peake, a deeper zone prospective for copper
- Further exploration drilling is planned in CY22

Peake prospect – selected drilling results

Hole ID	From (m)	To (m)	Cut off	Width (m)	Zinc (%)	Lead (%)	Silver (ppm)	Copper (%)
HDS-540	1279.2	1389.0	0.2% Cu	109.7	0.1	0.3	15	0.62
				Including				
	1303.6	1309.7	0.2% Cu	6.1	0.2	0.4	61	3.48
HDS-552	1308.2	1384.7	0.2% Cu	76.5	0.2	0.4	25	1.52
				Including				
	1309.9	1328.6	0.2% Cu	18.8	0.1	0.2	40	2.77
				And				
	1364.3	1384.7	0.2% Cu	20.4	0.1	0.3	37	2.44
HDS-661	1322.2	1374.6	0.2% Cu	52.4	0.1	1.1	105	1.73
				Including				
	1322.2	1346.0	0.2% Cu	23.8	0.1	0.8	81	3.32
				Including				
	1322.2	1330.1	0.2% Cu	7.9	0.1	0.4	81	7.89
	1386.8	1460.6	0.2% Cu	73.8	0.5	0.7	67	1.06
				Including				
	1399.6	1410.3	0.2% Cu	10.7	0.7	1.5	227	2.84
HDS-717	1456.6	1466.7	0.2% Cu	10.1	0.5	1.0	78	2.57

Notes:
a. Refer to important notices (slide 2) for additional disclosure.

PFS MINE DESIGN

Our PFS mine design employs conventional methods, delivering high productivity from multiple faces

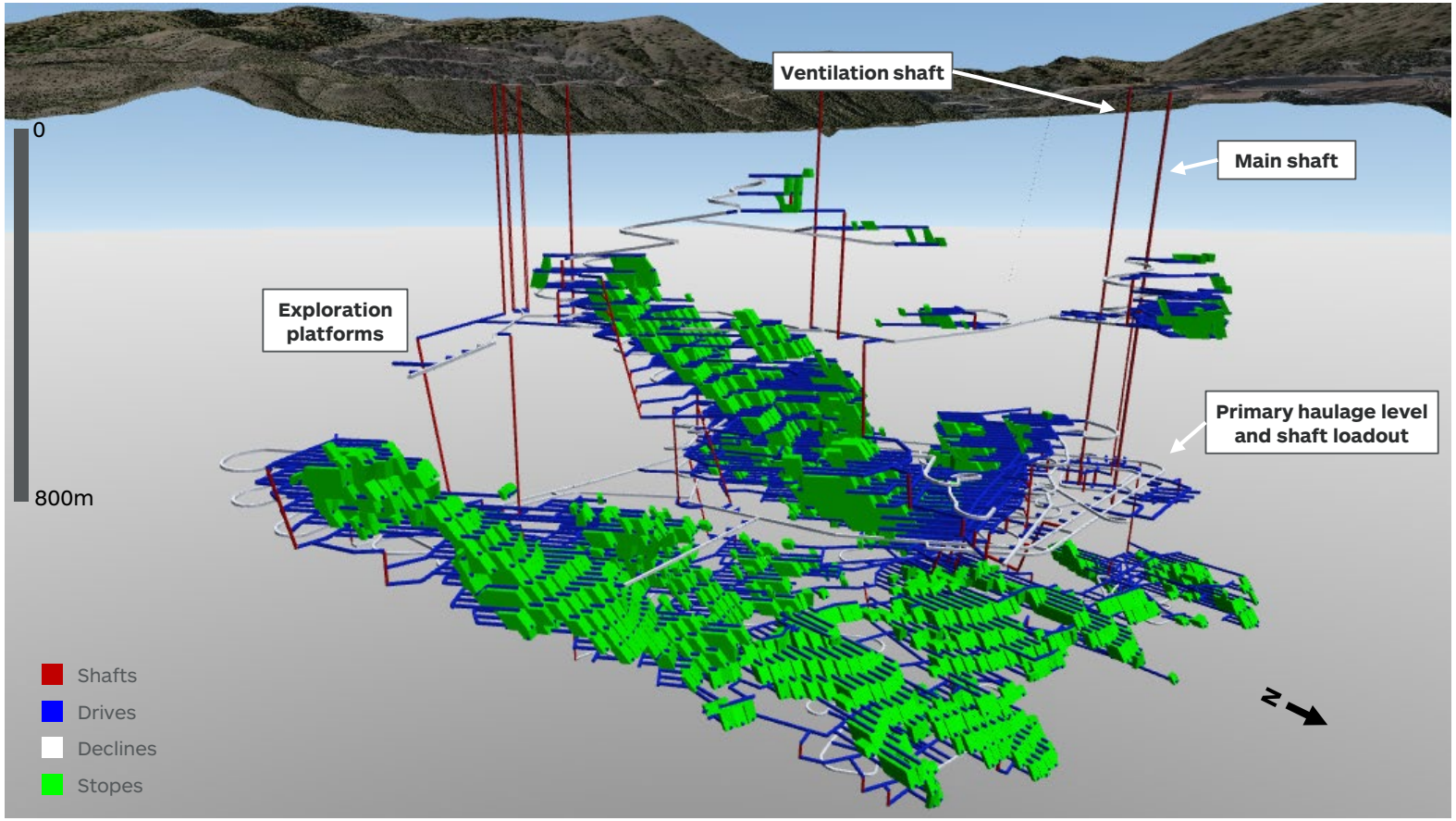
Dual shaft access prioritises higher grade ore in early years

Proposed mining method is low technical risk, employing longhole open stoping, similar to Cannington

Multiple concurrent mining areas expected to support high productivity

Single stage ramp-up following orebody dewatering to nameplate production

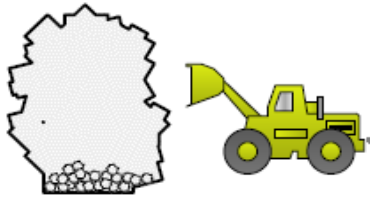
Taylor Deposit underground mine design



PFS PROCESS DESIGN

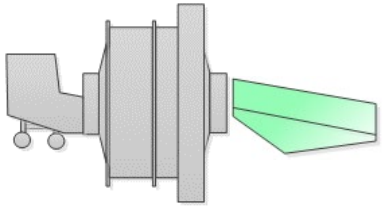
Conventional sulphide ore flotation circuit that produces separate zinc and lead concentrates with silver credits

ORE MINING



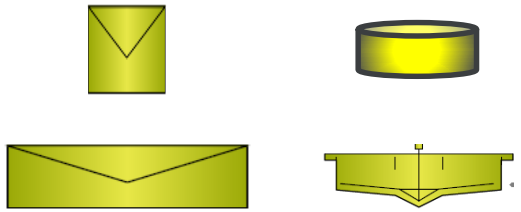
CRUSHING

SCREENING



Stope and development ore is mined, crushed underground, hoisted to surface and screened

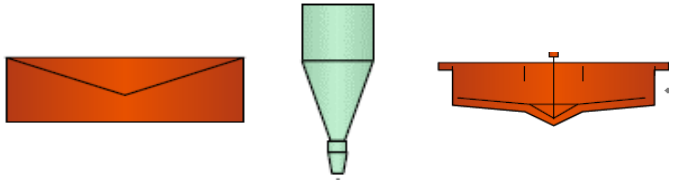
LEAD CIRCUIT



Lead rougher circuit feeds into the zinc rougher circuit
Lead thickener produces lead concentrate

CONCENTRATE HAULAGE

ZINC CIRCUIT



Zinc rougher circuit produces tailings
Zinc thickener produces zinc concentrate

TAILINGS AND BACKFILL

Paste backfill

TSF

SITE INFRASTRUCTURE

Project's initial water treatment plant and tailings storage facility are already established

Existing water and tailings infrastructure

Water

- Additional capital required to establish water wells and a second water treatment plant
- The first water treatment plant is installed and treatment upgrades are expected to be commissioned in Q3 FY22
- Construction to support critical path orebody dewatering is planned to commence in H2 FY22
- Second water treatment plant expected to be commissioned in Q4 FY23

Tailings storage

- We have completed the remediation of historic tailings, establishing the first of two state-of-the-art dry stack tailings storage facilities (TSF)
- Approximately half of Taylor's planned tailings are to be sent underground as paste fill, reducing its surface environmental footprint
- First TSF on patented land, with several State-based permits already received for dewatering
- Subsequent expansion of tailings storage capacity to require Federal permitting

Power

- Site power expected to be met through a grid-connected high voltage transmission line
- Discussions initiated to secure 100% renewable energy from local providers

Services and labour

- Excellent access to local service providers and skilled labour

TRANSPORT AND LOGISTICS

Hermosa is well located with the potential to serve multiple markets from established infrastructure

Concentrate readily exported to Asian and European smelters

Access to multiple North American ports

Concentrate expected to be trucked to a rail transfer facility or directly to port

Feasibility study to investigate the potential to supply smelters in the Americas

Transport logistics

PFS PRODUCT RECOVERIES

Taylor is expected to produce high-quality zinc and lead concentrates, with substantial silver by-product credits

Mid-grade zinc concentrate with relatively high silver content

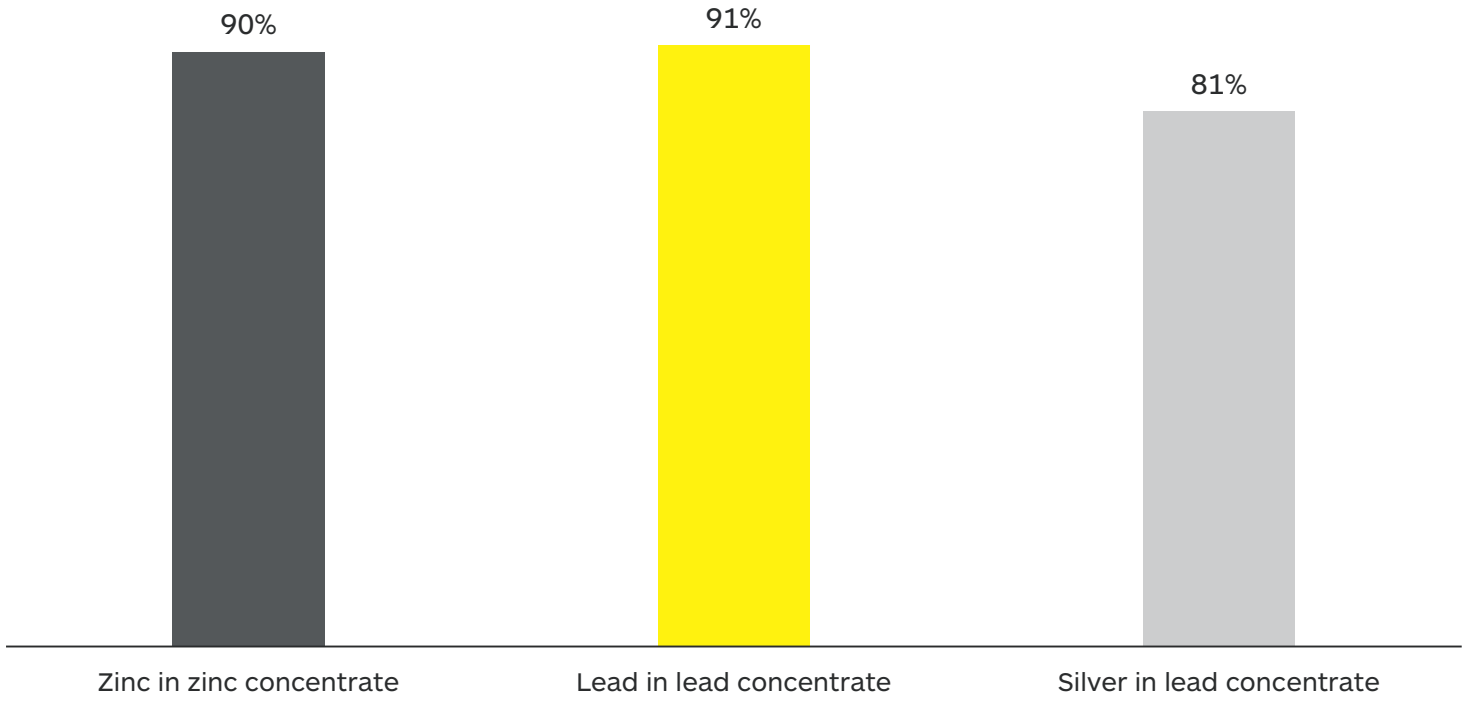
High-grade lead concentrate

Silver primarily reports to the lead concentrate

Metallurgical test work indicates excellent recoveries

Average metal recoveries

%



PFS PRODUCTION PROFILE

Preferred PFS development scenario to target throughput of up to 4.3Mtpa[(a)]

PFS production schedule has first ore expected in FY27 and a single stage ramp up to nameplate in FY30

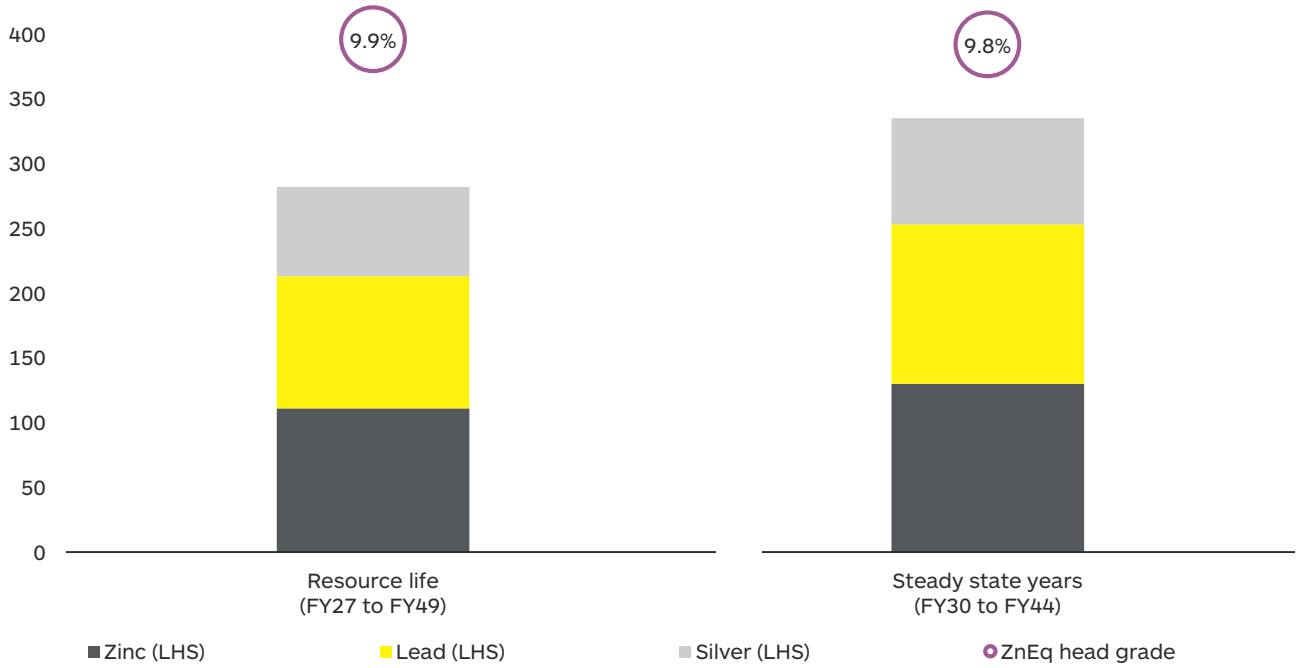
High grade mineralisation (~12% ZnEq) targeted in the first five years of mine plan

Average production in steady state years ~340ktpa ZnEq (FY30 to FY44)

Potential to extend the initial resource life

Payable ZnEq production and ZnEq head grade[5]
ktpa, LHS; %,

Up to 4.3Mtpa nameplate capacity, ~22 year resource life

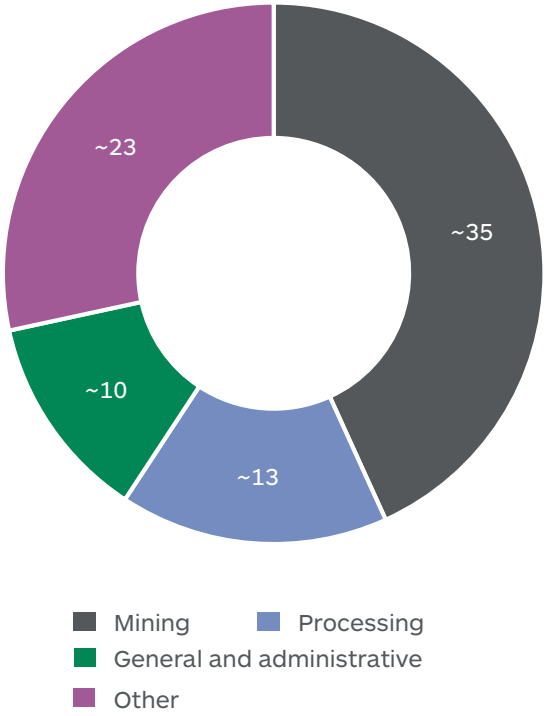


Notes:
a. Refer to important notices (slide 2) for additional disclosure.

PFS OPERATING UNIT COSTS

Operating unit costs are expected to benefit from underground productivity, production scale and favourable location

Operating unit costs[7]
US$/t ore milled (average)



Negative Operating unit costs with by-product credits

ZnEq Operating unit cost[8]
~US$(0.71)/lb ZnEq

All-in sustaining cost[9]
~US$(0.05)/lb ZnEq

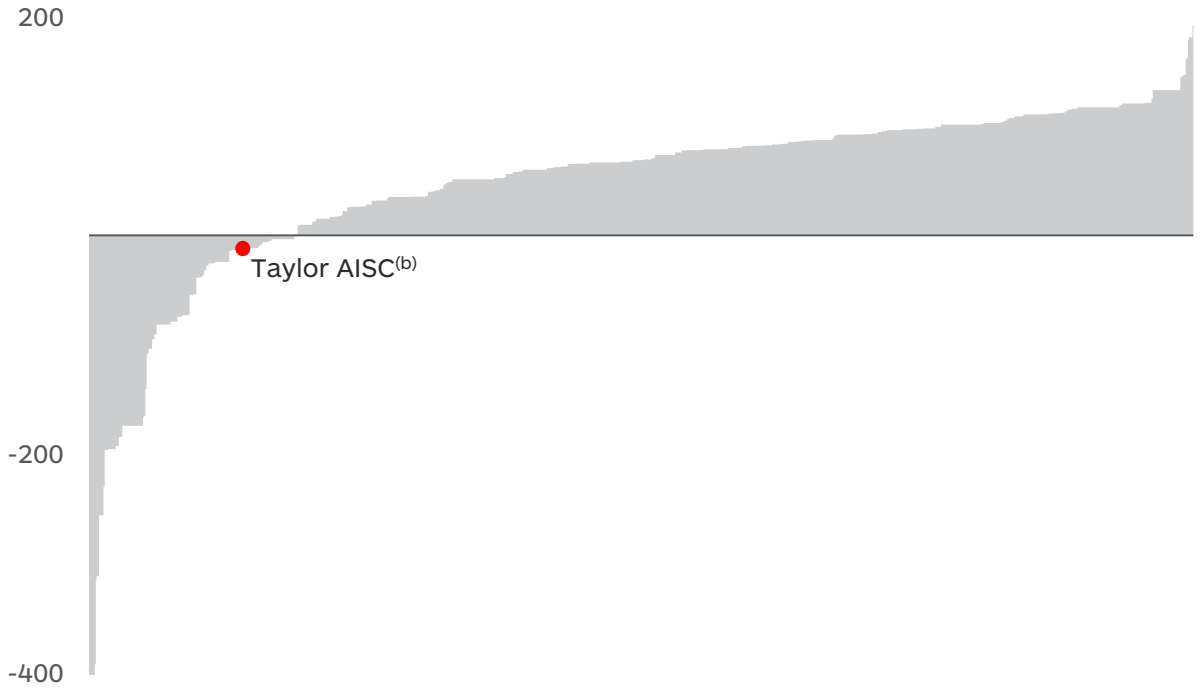
Operating unit costs

- Mining costs include all activities related to underground mining, including labour, materials, utilities and maintenance
- Processing costs include consumables, labour and power
- General and administrative costs include head office corporate costs and site support staff
- Other costs include shipping and transport, marketing and royalties, with private net smelter royalties averaging 2.4%

PFS OPERATING UNIT COSTS

Taylor's unit costs are expected to be in the first quartile of the industry's cost curve[a]

Zinc total cash and sustaining costs curve CY29[a]
USc/lb, real 1 January 2021, net of credits



Potential opportunities to further reduce operating costs during feasibility include:

- Optimisation of the mining schedule, power consumption and comminution circuit
- Potential to supply smelters in the Americas, realising a material reduction in shipping and transport costs
- Emerging technology and automation opportunities to be further tested, targeting enhanced productivity

Notes:
a. Based on Wood Mackenzie Zinc Mine Normal Costs Curve (2021 Q4 dataset), and is calculated as the sum of direct costs, indirect cash costs, interest charges and sustaining capital expenditure.
b. Based on Taylor all-in sustaining cost (AISC) during steady-state operations (FY30 to FY44) of approximately US$(0.13)/lb ZnEq.

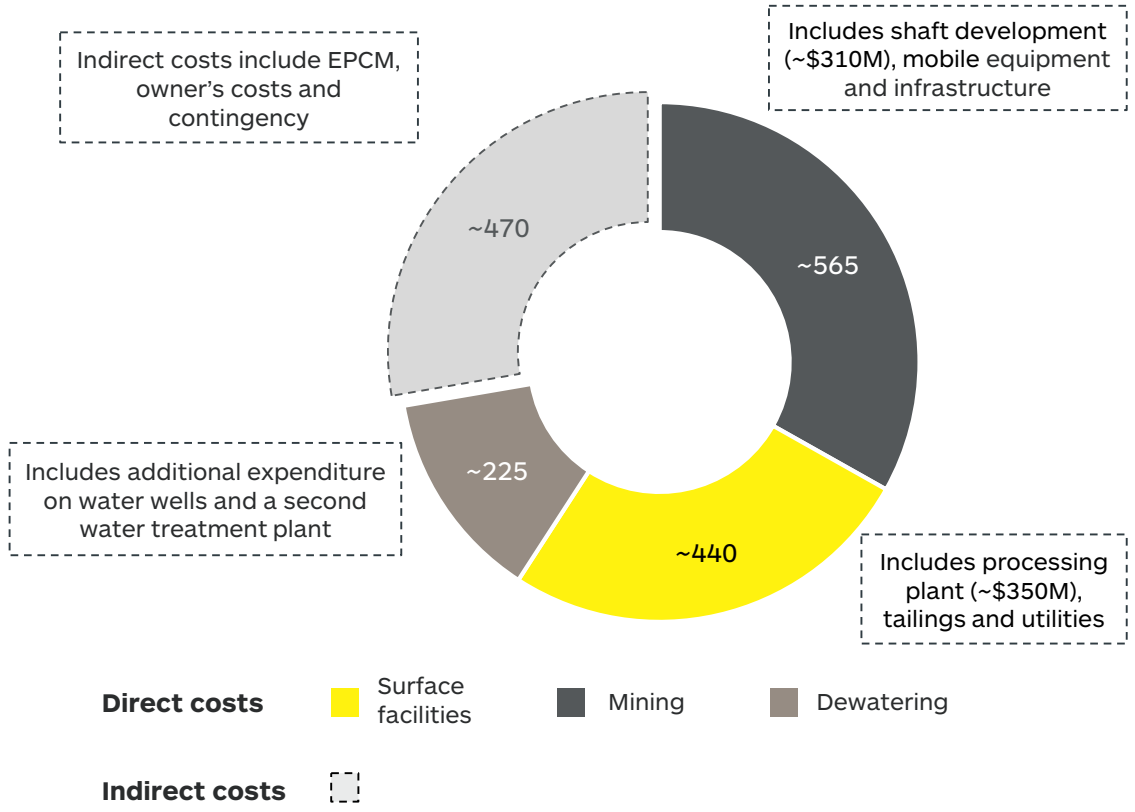
PFS CAPITAL EXPENDITURE

Upfront investment required to support additional orebody dewatering

- Direct growth capital includes estimates for all mining, processing and other surface infrastructure, including tailings, water and power
- Capital estimate reflects assumptions for key inputs including steel, cement and labour as at H1 FY22
- Mine development and processing plant cost estimates benchmark favourably, while additional capital has been allocated for upfront dewatering and to establish dedicated power infrastructure
- Includes pre-commitment capital for dewatering of ~US$55M in H2 FY22, with further investment expected in FY23
- Annual average sustaining capital ~US$40M
- Further optimisation of costs and design will focus on shaft optimisation and the potential benefits from a co-development of the Clark Deposit
- Additional costs will be incurred during the study phase, attributable to the Taylor feasibility study and work across the broader Hermosa project

Four year construction period following final investment decision

Pre-production capital expenditure
(US$M)



PFS TIMELINE AND APPROVALS

Taylor feasibility study and a final investment decision expected in mid CY23

Preferred development path assumed in the PFS[a]

Key approvals and permits required for the Taylor Deposit

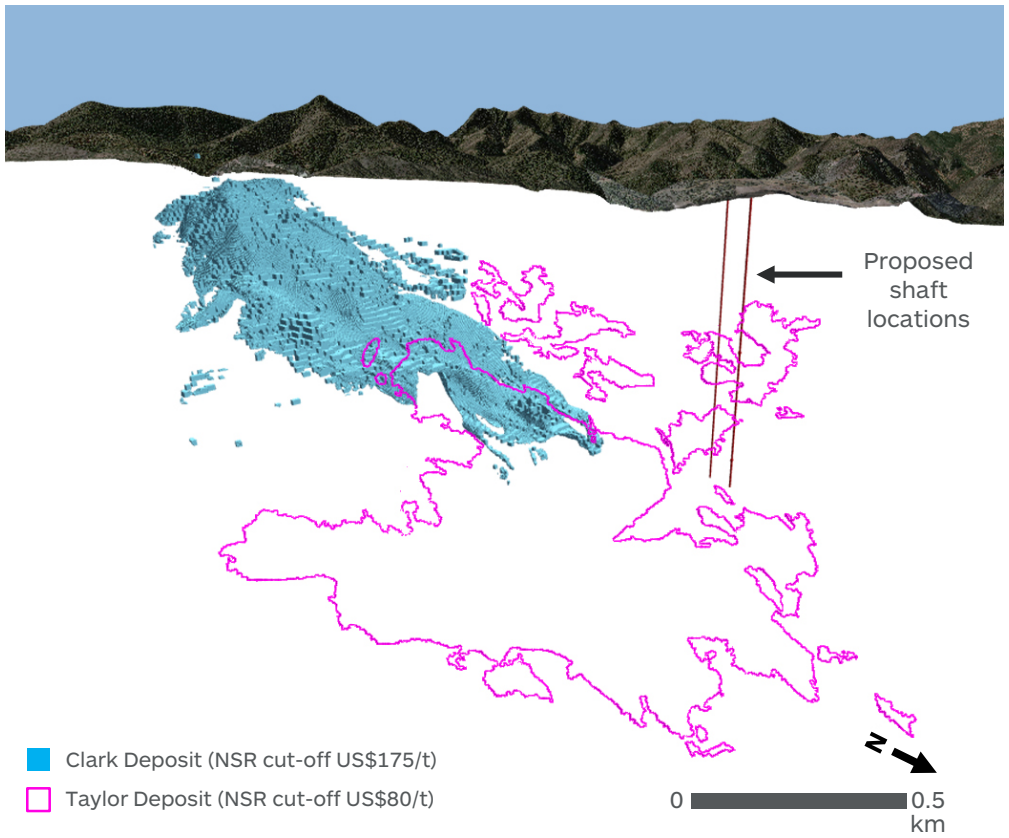
- Initial underground development, surface infrastructure and initial tailings placement are expected to be located on patented mining claims, requiring approvals and permits from the State of Arizona. Several State-based permits for dewatering are already held
- Surface disturbance on unpatented land will require completion of the National Environmental Policy Act (NEPA) process with the United States Forest Service to receive a Record of Decision (RoD)
- RoD would enable the establishment of tailings storage capacity on unpatented land
- The project may benefit from the classification of metals found at Hermosa as critical minerals in the United States. Zinc is proposed to be added as a critical mineral by the U.S. Geological Survey while manganese (Clark Deposit) already has this designation

Notes:
a. Illustrative development path for the Taylor Deposit in the PFS, which is subject to investment approvals and receipt of required permits.

CLARK SCOPING STUDY

Scoping study has confirmed the potential to produce battery-grade manganese via Clark's separate development

Taylor and Clark Deposits (looking south-west)



Clark Deposit

- 55Mt Mineral Resource averaging 2.31% zinc, 9.08% manganese and 78g/t silver[(a)]
- Mineralised from surface with the potential to share underground infrastructure with Taylor
- Separate processing circuit to Taylor required to produce battery-grade manganese

Scoping study results[(b)]

- Confirmed a technically viable flowsheet to produce battery grade manganese:
  - Manganese Sulphate Monohydrate; or
  - Electrolytic Manganese Metal.
- Metallurgical test work has confirmed the hydrometallurgical flowsheet
- We are exploring partnerships across the battery materials supply chain

Forward plan

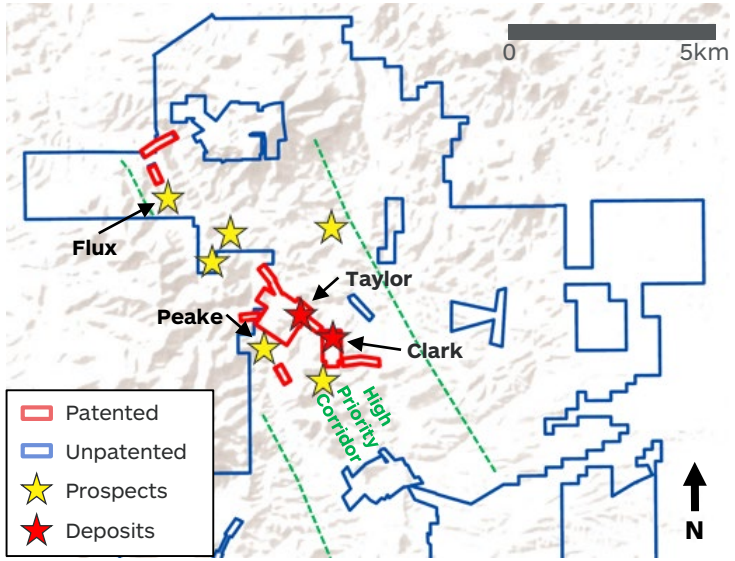
- We will now complete a PFS for a potential underground mine development, focused on:
  - increasing confidence in our technical and operating assumptions;
  - customer opportunities; and
  - integrated development options with Taylor, unlocking operating and capital efficiencies for both
- If the results are supportive, the Clark feasibility study may be combined with Taylor to examine the potential for a second stage development

Notes:
a. Refer to footnotes (slide 29) for additional disclosure.
b. Refer to important notices (slide 2) for additional disclosure.

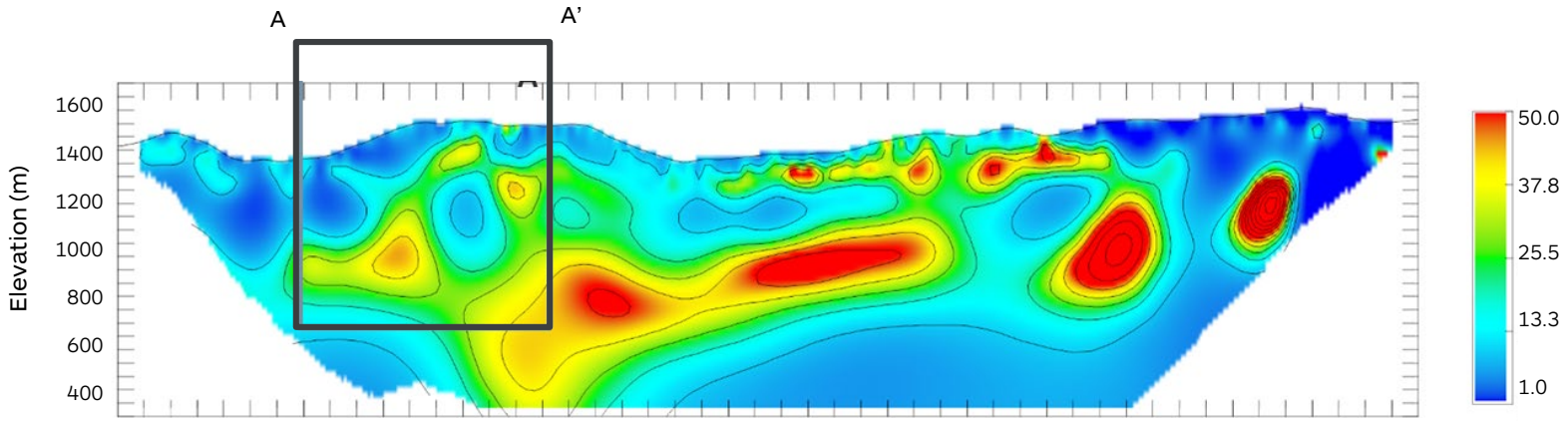
HERMOSA REGIONAL EXPLORATION

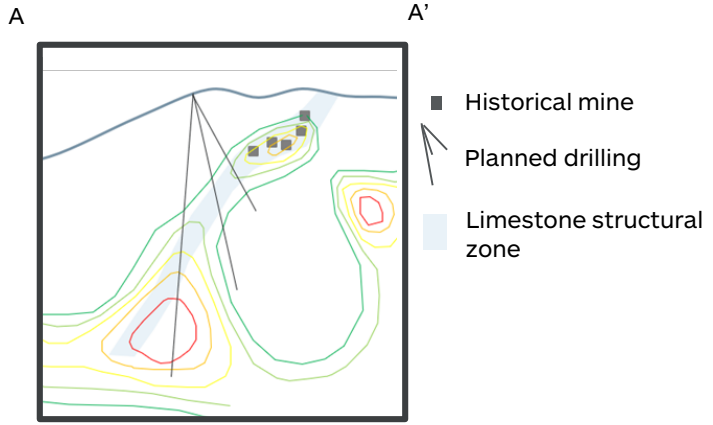
Hermosa hosts a highly prospective regional land package with the potential for future discoveries

- We have increased our tenure by 66% since acquisition, consolidating the most prospective areas for polymetallic and copper mineralisation
- Prospective corridor identified using surface geophysics, soil sampling and mapping
- Flux identified as a priority prospect in the regional corridor:
  - Immediately downdip of a historic mining area in carbonates with the potential to host Taylor-like mineralisation
  - An initial diamond drilling program planned in H2 CY22 (subject to the receipt of permits)
- Our ongoing exploration strategy will focus on identifying, permitting and drill testing new targets in the broader land package



Chargeability model of Flux prospect[a]
(mV/V)





Notes:
a. Refer to footnotes (slide 29) for additional disclosure.

LOOKING AHEAD

PFS results show Taylor's potential to underpin Hermosa's first stage of development

Taylor feasibility study and final investment decision expected in mid CY23

Critical path works including dewatering infrastructure expected to commence in H2 FY22

We are assessing Clark's potential to be a second development option at Hermosa

Evaluating opportunities to reduce initial capital, including further optimisation of the shaft design, construction and procurement

Planning to drill the high priority Flux prospect in late CY22, subject to receipt of permits

SUMMARY

Hermosa is a regional scale opportunity pursuing critical green metals, with the potential for multiple stages of development

Taylor PFS has defined the potential for an initial mine development in the first quartile of the industry's cost curve

Potential to add to our broader portfolio's substantial production growth in metals critical to a low carbon future

SUPPLEMENTARY INFORMATION

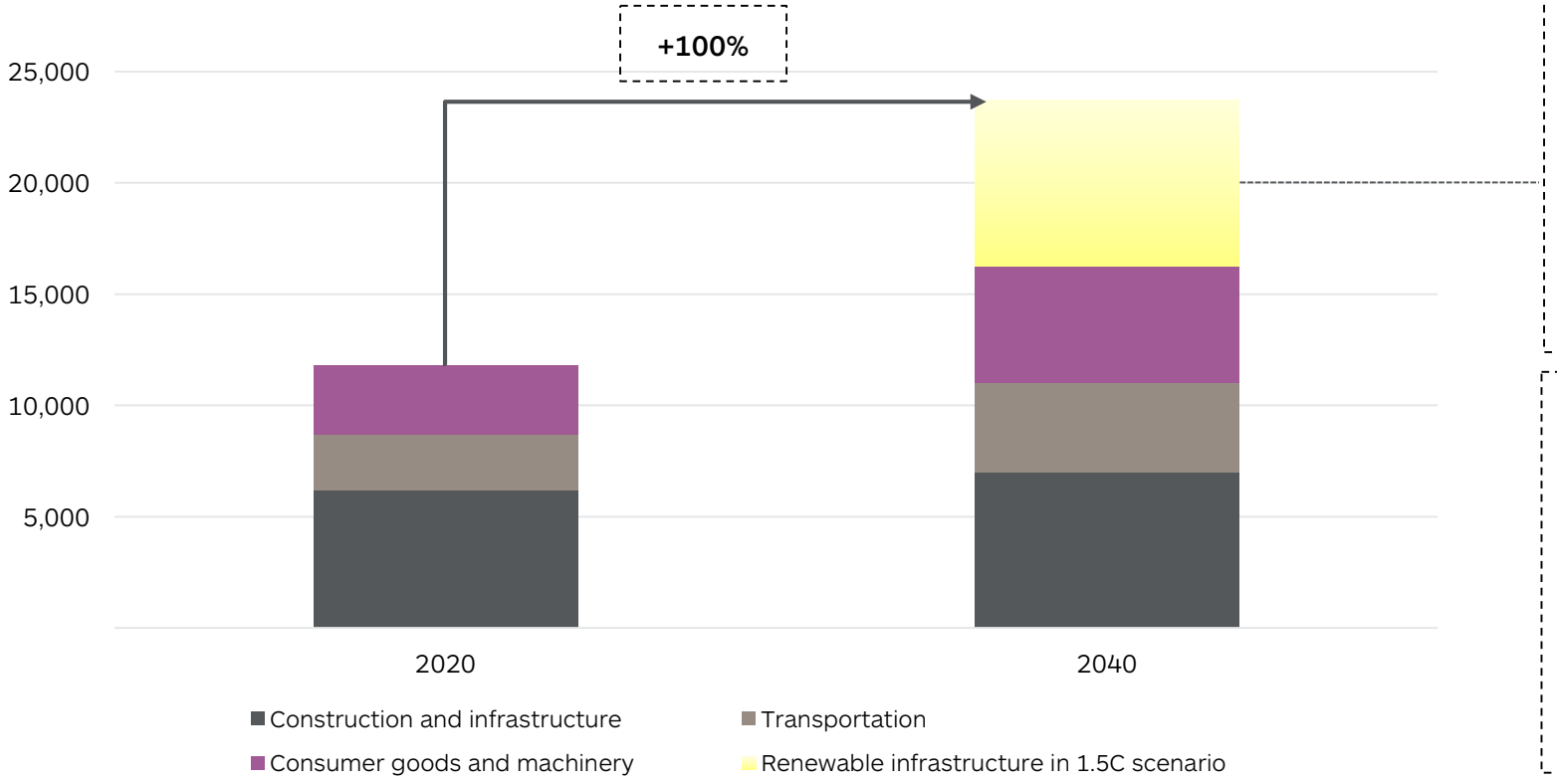
ZINC MARKET

Strong demand in transport, consumer and industrial sectors, with rising intensity of use

Rapid deployment of wind and solar infrastructure to create new demand

Supply expected to fall 3.5% pa to 2030, requiring investment in new mine supply and inducement pricing

Zinc primary demand
(kt Zn)



Demand

- Zinc provides a protective coating in wind turbines, and allows for higher energy conversion in solar panels
- In a 1.5°C (climate change) scenario, we see:
  - 6x increase in renewable energy capacity to 2050, with wind increasing by 10x and solar by 14x
  - Primary zinc demand increasing 2x to 24Mt

Supply

- Conversely, current mine supply expected to fall by 3.5% pa (~270kt pa) to 2030
- Mine depletion, new builds with lower average grades and longer approval pathways will continue to constrain supply
- Pricing needed to induce new marginal supply to support average prices in the long term

Source: South32 analysis and Wood Mackenzie.

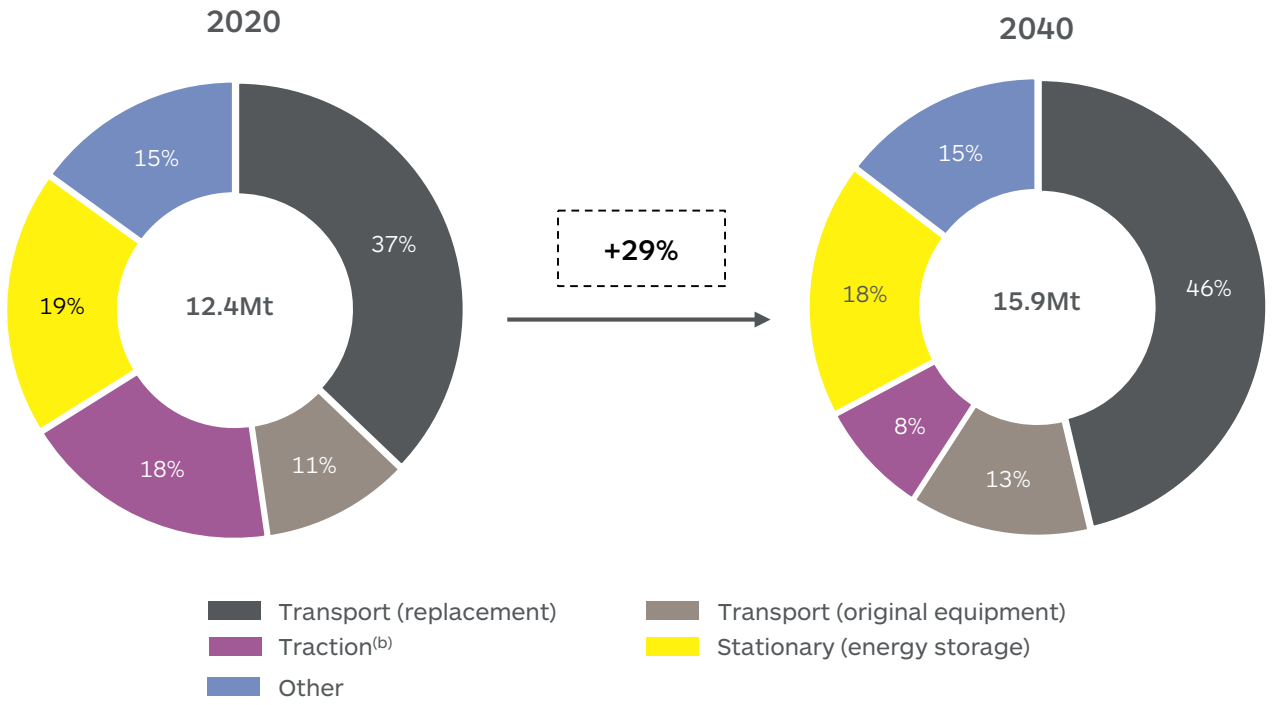
LEAD MARKET

Growth in the ICE[a] fleet will support demand in the short to medium term

Renewable energy storage will remain a key component of demand

EV penetration rates and resultant scrap supply will ultimately determine the market balance

Total lead demand by end-user sectors



Demand

- While electric vehicle penetration rates are forecast to rise, concurrent growth in the internal combustion engine fleet supports demand for lead batteries in the short to medium term
- The safety-related and low-cost characteristics of lead-acid batteries makes them an attractive choice for renewables energy storage

Supply

- Mine supply expected to fall by 3.8% pa (~100kt pa) to 2040
- In our base case, rising scrap production is insufficient to balance the projected market shortfall, requiring new mine supply and inducement pricing
- In a 1.5C (climate change) scenario, scrap supply would be significantly higher with the accelerated shift away from ICE vehicles, potentially limiting the need for additional primary supply

Source: South32 analysis.

Notes:
a. ICE refers to internal combustion engine.
b. Traction batteries refers to automotive batteries used to power smaller vehicles, including e-bike, trikes and forklifts.

SILVER MARKET

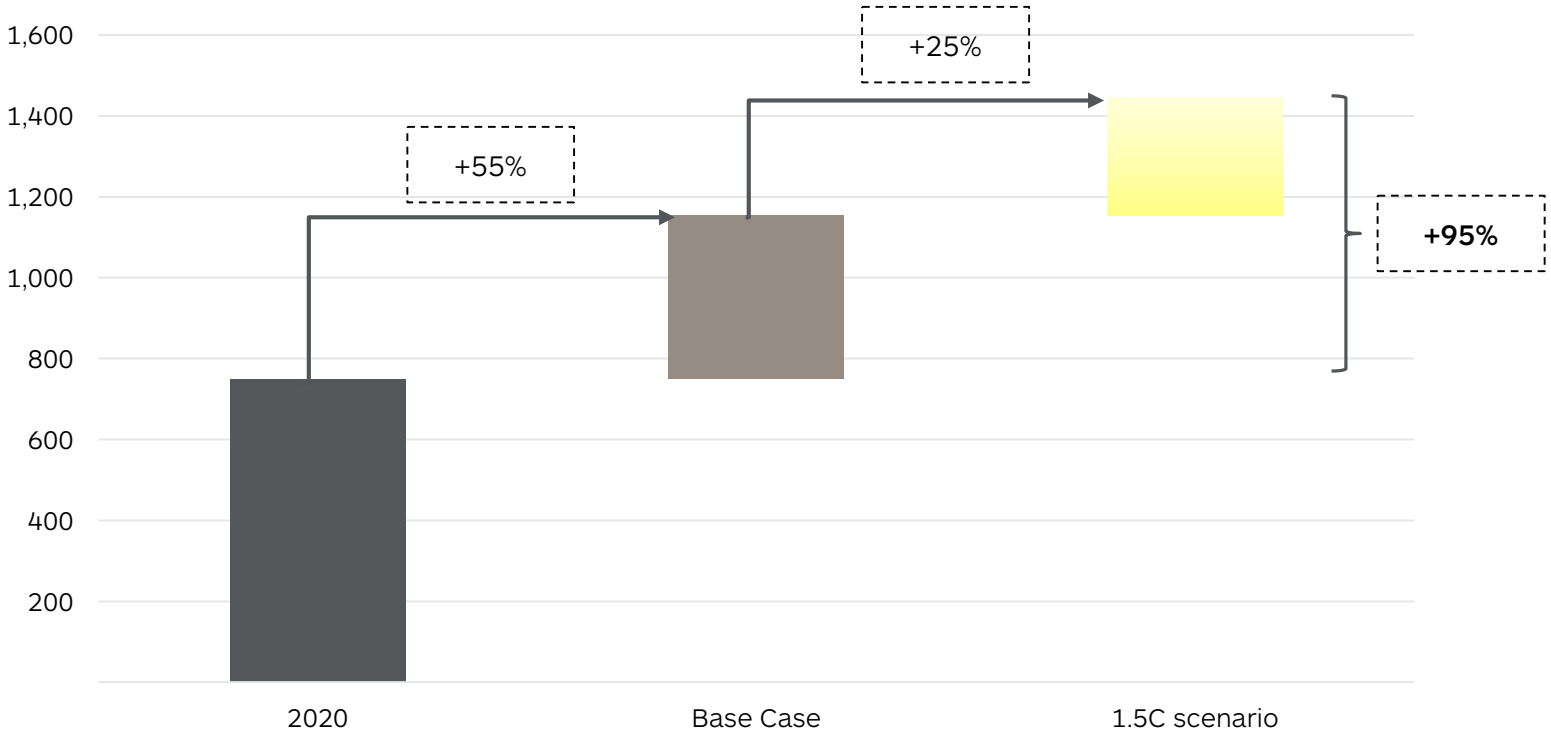
Silver used extensively in solar panels

14x increase in solar capacity anticipated in a 1.5C world

Lack of new high-content silver polymetallic mines expected to culminate in a material market deficit

Primary silver demand: 2020 to 2040

(Moz)



Demand

- Silver is the preferred metal used in solar panels due to its superior electrical conductivity
- 55% increase in primary demand to 2040 expected in our base case scenario
- The level of demand growth rises a further 25% to ~1,400Moz in a 1.5°C (climate change) scenario

Supply

- Additional demand of ~30Moz pa until 2040 is equivalent to more than two new Cannington mines being built each year
- Despite this, there are very few high-silver polymetallic options identified globally with a material silver deficit looming
- Additionally, constrained Chinese mine volumes are expected to induce higher imports of high-silver lead concentrates to meet domestic silver demand

Source: South32 analysis and CRU

FOOTNOTES

1. Group FY21 operating revenue excluding South Africa Energy Coal. Refer to market release “Financial Results and Outlook – year ended 30 June 2021” dated 19 August 2021.
2. 45% interest in the Sierra Gorda copper mine. Refer to market release “South32 to acquire a 45% interest in the Sierra Gorda copper mine” dated 14 October 2021. The estimates indicated in the Original announcement are qualifying foreign estimate and are not reported in accordance with the JORC Code. A Competent Person has not done sufficient work to classify foreign estimates as Mineral Resources or Ore Reserves in accordance with the JORC Code. It is uncertain that following evaluation and/or further work that the foreign estimates will be reported as Mineral Resources or Ore Reserves in accordance with the JORC Code.
3. 276kt increase in annual aluminium production (South32 share), following completion of the acquisition of an additional 16.6% interest in Mozal Aluminium and the restart of the Alumar aluminium smelter at nameplate capacity. Refer to market releases, “South32 to acquire up to an additional 25% of Mozal Aluminium” dated 30 September 2021 and “Restart of Brazil Aluminium using renewable power” dated 6 January 2022, respectively.
4. Revenue equivalent production in the PFS steady state years (FY30 to FY44), averaging 130kt zinc, 166kt lead and 8.7Moz silver.
5. Payable zinc equivalent was calculated by aggregating revenues from payable zinc, lead and silver, and dividing the total revenue by the price of zinc. Average metallurgical recovery assumptions are 90% for zinc, 91% for lead and 81% for silver. FY21 average index prices for zinc (US$2,695/t), lead (US$1,992/t) and silver (US$25.50/oz) (excluding treatment and refining charges) have been used.
6. Federal tax of 21.0% and Arizona state tax of 4.9% of taxable income, subject to applicable allowances. Hermosa has an opening tax loss balance of approximately US$83M as at 30 June 2020. Property and severance taxes are also expected to be paid. Based on the PFS schedule, we expect to commence paying income taxes from FY29.
7. Operating unit cost is Revenue less Underlying EBITDA, excluding third party sales and TCRCs, divided by sales volumes. The prices used are FY21 average index prices for zinc (US$2,695/t), lead (US$1,992/t) and silver (US$25.50/oz) (excluding TCRCs).
8. ZnEq Operating unit cost includes lead and silver by-product credits, using FY21 average index prices.
9. All-in sustaining cost (AISC) includes operating unit costs (including royalties), TCRCs, and sustaining capital expenditure.

The denotation (e) refers to an estimate or forecast year.

The following abbreviations have been used throughout this presentation: all-in sustaining costs (AISC); billion (B); calendar year (CY); earnings before interest, tax, depreciation and amortisation (EBITDA) ; engineering, procurement and construction management (EPCM); equity accounted investments (EAI); electric vehicle (EV); feasibility study (FS); final investment decision (FID); financial year (FY); free on board (FOB); internal combustion engine (ICE); kilo tonnes (kt); kilo tonnes per annum (ktpa); lead (Pb); left hand side (LHS); life of mine (LOM); million (M); million tonnes (Mt); million tonnes per annum (Mtpa); millivolts per volt (mV/V); National Environmental Policy Act (NEPA); net smelter return (NSR); pre-feasibility study (PFS); pound (lb); Record of Decision (RoD); right hand side (RHS); silver (Ag); tailings storage facility (TSF); treatment and refining charges (TCRCs); United States (US); volts (V); water treatment plant (WTP); zinc (Zn); and zinc equivalent (ZnEq).

MINERAL RESOURCES AND ORE RESERVES

Mineral Resource Statements for the Taylor and Clark deposits: The information in this presentation that relates to Mineral Resources for the Taylor and Clark deposits is extracted from South32's FY21 Annual Report (www.south32.net) published on 3 September 2021. The information was prepared by a Competent Person in accordance with the requirements of the JORC Code. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement, and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. South32 confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Resource life is estimated using Mineral Resources (extracted from South32’s FY21 Annual Report published on 3 September 2021 and available to view on www.south32.net) and Exploration Target (details of which are available in the "Hermosa Project Update" announcement published on 17 January 2022), converted to a run-of-mine basis using conversion factors, divided by the nominated run-of-mine production rate on a 100% basis. Whilst South32 believes it has a reasonable basis to reference this resource life and incorporate it within its Production Targets, it should be noted that resource life calculations are indicative only and do not necessarily reflect future uncertainties such as economic conditions, technical or permitting issues. Resource life is based on our current expectations of future results and should not be solely relied upon by investors when making investment decisions.

Flux Exploration Target: The information is this presentation that relates to Exploration Target for Flux is extracted from “South32 Strategy and Business Update” published on 18 May 2021 and is available to view on www.south32.net. The information was prepared by a Competent Person in accordance with the requirements of the JORC Code. South32 confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. South32 confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.


SOUTH32

HERMOSA LOCAL PROCUREMENT DEVELOPMENT

SCOPING DOCUMENT

DECEMBER 2021

Melanie Lawson – Communities Specialist

BUSINESS OVERVIEW

South32 is a globally diversified metals and mining company with a portfolio of high quality, well established assets, producing bauxite, alumina, aluminium, thermal and metallurgical coal, manganese, nickel, silver lead and zinc. We are the world's largest producer of manganese ore and own the world's largest silver mine. South32 run a high-quality alumina refinery, two modern cost-competitive aluminium smelters and are one of the world leaders in ferronickel operations. South32 success is underpinned by our employees and contractors that work at South32.

The Hermosa Project is a development option in an historic mining district in the Patagonia Mountains. South32 acquired the project in 2018, and preliminary studies revealed it contains a world-class resource. The resource has significant potential to provide critical base metals essential for everyday needs and for the shifts required to address climate change.

Mining is not currently underway at the Hermosa Project. The project is currently in the pre-feasibility study phase and identifying a preferred development path which will then transition the project to the feasibility phase and more in-depth analysis. Please read more about our operations in our FY21 Annual Report and Sustainable Development Reporting Suite at https://www.south32.net/investors-media/investor-centre/annual-reporting-suite.

PURPOSE

This is a scoping document to begin supporting local procurement development in Santa Cruz County. South32 Hermosa aims to work with local government, businesses and other local organizations to support sourcing from within Santa Cruz County. The program can also support local business development, growing the local skill base and ensuring access to procurement and contracting opportunities throughout development of the Hermosa Project.

This program will likely grow and develop over time and will include multiple stages or phases. The below scope covers the initial phase which will focus on access to construction opportunities at Hermosa and building a strong foundation that begins to integrate with broader Santa Cruz County programs and development initiatives.

SCOPE

Phase 1 – Targeting Skilled Trades

South32 Hermosa is looking for a local provider/consultant to complete the following activities:

- Business baseline assessment – focused in Santa Cruz County, AZ, identify key stakeholders, local resources (businesses and business organizations), preferred methods of communication / receiving information, levels business acumen, etc.
    - The assessment should identify key areas for capacity building and skills development (insurance requirements, estimating or bidding work, billing, etc.)
    - The assessment should create a roadmap for businesses to overcome barriers and access contracting opportunities with South32 and its associated contractors.
    - Focus efforts for phase 1 in areas supporting skilled trades in Santa Cruz County (construction trades such as electrical, pipe fitting, etc. which support project construction)
    - One required outcome will be generating visuals for local marketing. South 32 will work with the Consultant to help identify the information or visuals that can be used toward branding, marketing, and generating community support.
- Identify providers for procurement/skills development workshops which should include, but not be limited to the following:
    - Promotional / engagement plan to mobilize tradespeople through outreach.
    - Timeline for executing workshops is Fall 2022 to coincide with early works construction projects at Hermosa.

    - Workshops can potentially be expanded to support other industries supporting economic development in Santa Cruz County, such as the Produce Industry, or other construction initiatives supporting programs such as affordable housing.
- Work with the identified provider and Santa Cruz County Workforce Development to execute workshops
    - Adapting the curriculum and promoting/engaging tradespeople and local businesses through outreach
    - Provide a platform and assist with workshop execution
- Partner with Santa Cruz County Workforce Development office to provide a platform for employees to expand skills and build capacity in their areas of work.

The above activities will support the following work at Hermosa awarded to larger development contractors:

- Water Treatment Plant 2 (awarded to Sundt)
- Dewatering (6 wells)
- Shaft development

GOVERNANACE

Development and implementation of the local procurement program will require coordination with local businesses, organizations and government in Santa Cruz County. Additional community resources can include the Hermosa community advisory panel which provides oversight to aspects of Hermosa Project development, as well as the forthcoming Santa Cruz County Economic Development Plan steering committee, the consultant coordinating the Santa Cruz County distribution strategy for the American Rescue Plan Act funds, the Santa Cruz County Chambers of Commerce (Nogales-Santa Cruz County; Tubac; Sonoita/Elgin; Sky Islands Tourism Association).

Key County / Community Documents or Resources:

- 2022 South 32 Social Impact and Opportunities Assessment (forthcoming)
- South 32 Pre-feasibility Report (forthcoming, January 2022)
- 2022-2025 Nogales/Santa Cruz County Port Authority Strategic Plan (forthcoming)
- 2022 Rio Rico Vitality Plan (in process)
- 2022 Santa Cruz County Economic Study with a Focus on the Nature-Based Restorative Economy (forthcoming, winter 2022)
- 2021 SEAGO Comprehensive Economic Development Strategy
- 2020 Santa Cruz County COVID-19 Economic Recovery Survey and Strategy

Methodology Requirements:

- Focus group discussions with key partners/stakeholders, as identified by the community resources listed above
- Stakeholder interviews as required (close gaps from focus groups)
- Focus groups and interview must be designed in a way that is inclusive, accessible, timely and executed in a culturally sensitive and appropriate manner. Spanish sessions may be required.
- Detailed documentation of all focus group discussions (including professionally-prepared, original notes and/or transcripts of zoom sessions)
- Presentation materials
- Detailed minutes

Additional Considerations:

Using these resources, the Consultant will prepare a strengths, opportunities, aspirations and resources (SOAR) analysis (or similar) of targeted skilled trades with a timeline, schedule, desired stakeholder outcomes and metrics/responsible parties associated with implementing desired outcomes on a quarterly basis. The document can be used by the Hermosa Community Advisory panel as part of its strategy to support local procurement.

HERMOSA PROJECT LOCAL PROCUREMENT BACKGROUND

Local Zones

At Hermosa, we also define our communities by geographical proximity to the Hermosa project and have classified stakeholders into three local zones. The first zone, “Zone A” includes the primary communities in Santa Cruz County. The second zone. “Zone B” includes the neighbouring counties of Cochise, Pima, Pinal, Graham and Greenlee County. The third zone, “Zone C” includes remaining counties within the state of Arizona. Hermosa’s primary stakeholder group are the communities identified in the first zone. Graph 1 provides a map.