

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

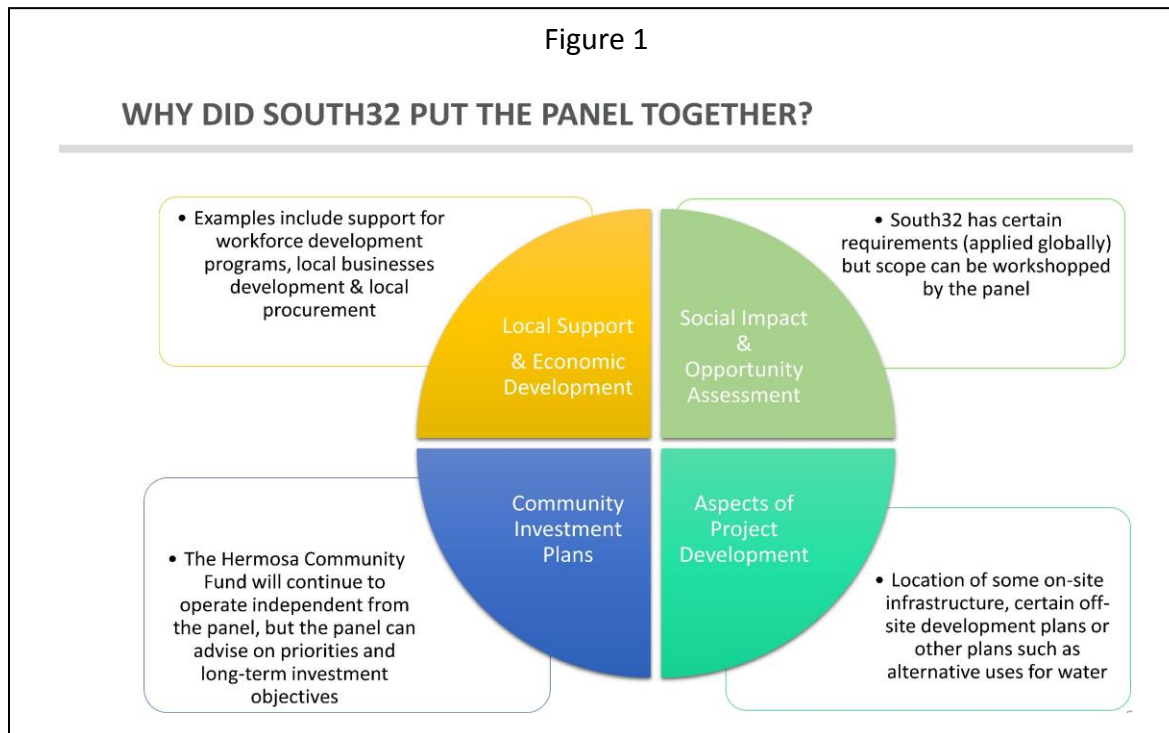
January 2022

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.



South32's Purpose in Creating the Panel

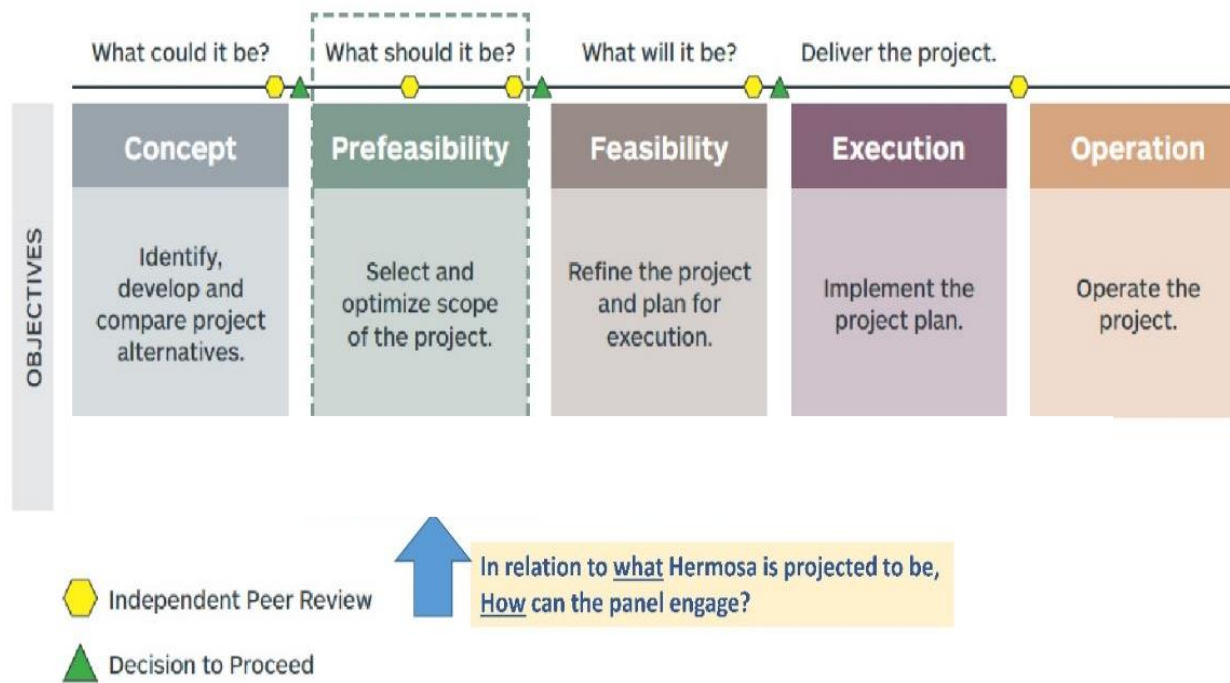
Given its work globally, South32 has found community engagement essential to effective partnerships and to more effectively understand and mitigate community impacts.

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

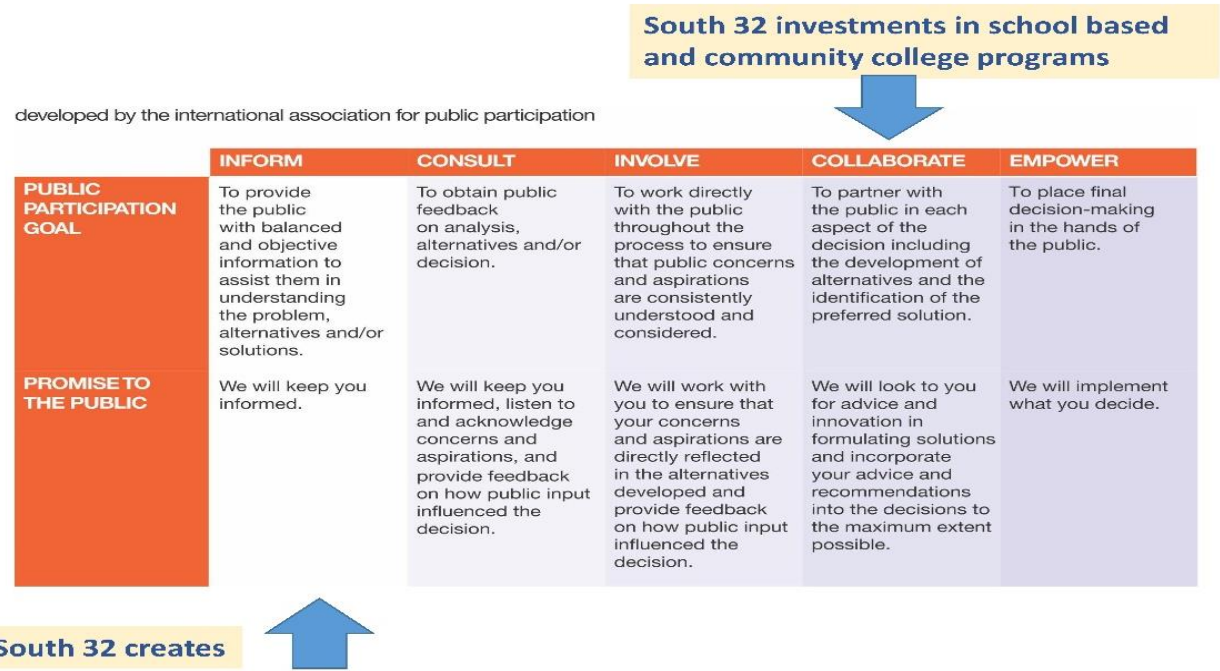
Hermosa Advisory Panelists: Relationship to Hermosa Prefeasibility Phase



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

Workforce Example: How Much Influence Panel Has Negotiating with S32



The Panel’s Purpose and Priorities

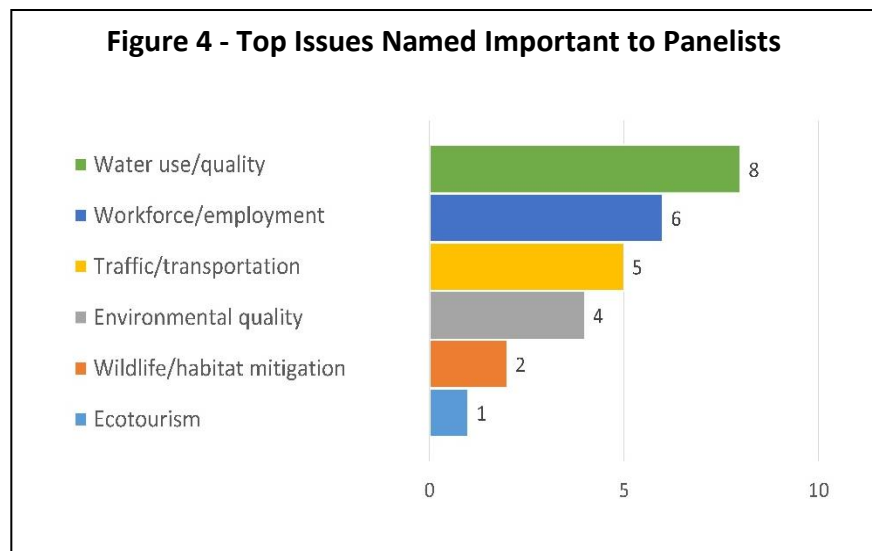
Even though the prefeasibility report has yet to be released, the panel has worked in 2021 to build a knowledge base on a range of issues, which will help it make more informed recommendations during the next stage of project development.

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.



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.

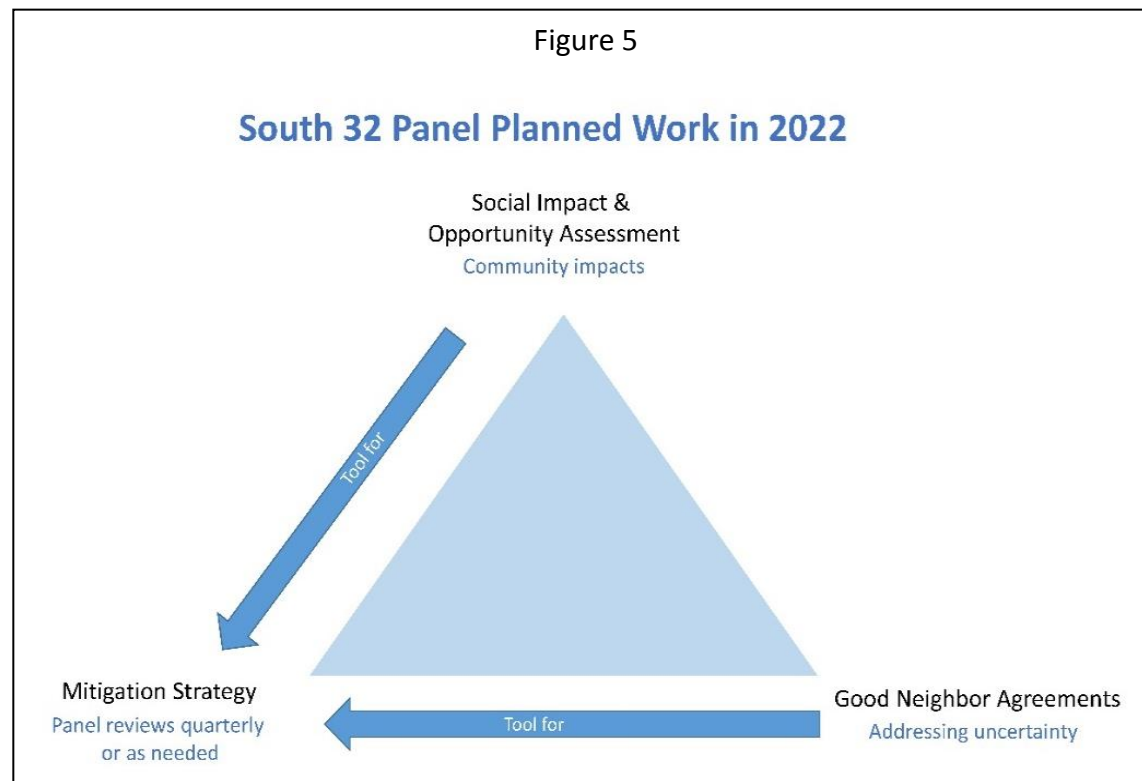
Exploring Workforce Opportunities and Concerns

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.



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.

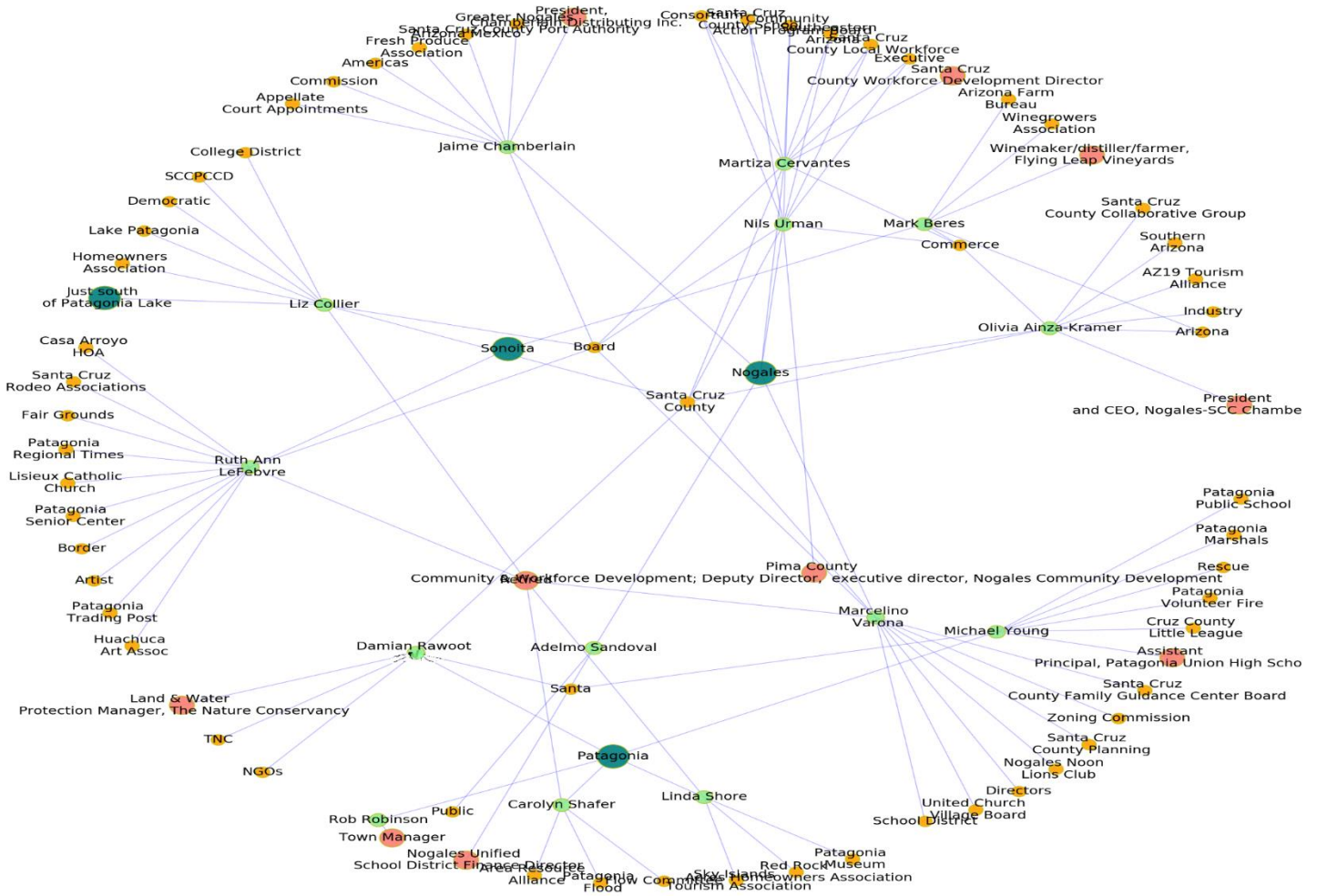
Appendix A
Panelists, their Networks and Communities Represented

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

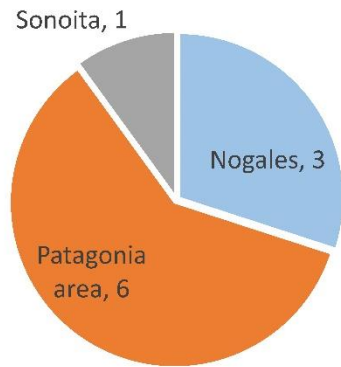
Panelist	Employment	Affiliations	Community
1. Olivia Ainza-Kramer	President and CEO, Nogales-SCC Chamber of Commerce	Arizona Chamber of Commerce and Industry, Arizona @ Work Santa Cruz County, AZ19 Tourism Alliance, Southern Arizona Chamber Association, Santa Cruz County Collaborative Group	Nogales
2. 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

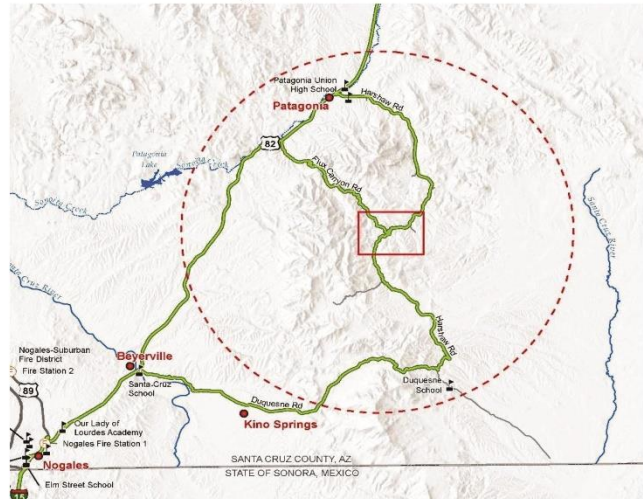
Hermosa Advisory Panelists, By Community as of 12/2021

Population
 Nogales = 20,031
 Patagonia = 864

Sonoita = 864
 Elgin = 91



Hermosa Project: Area of Direct Influence



Source: ERM, 2019

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

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

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

Appendix B

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

- 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.

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

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

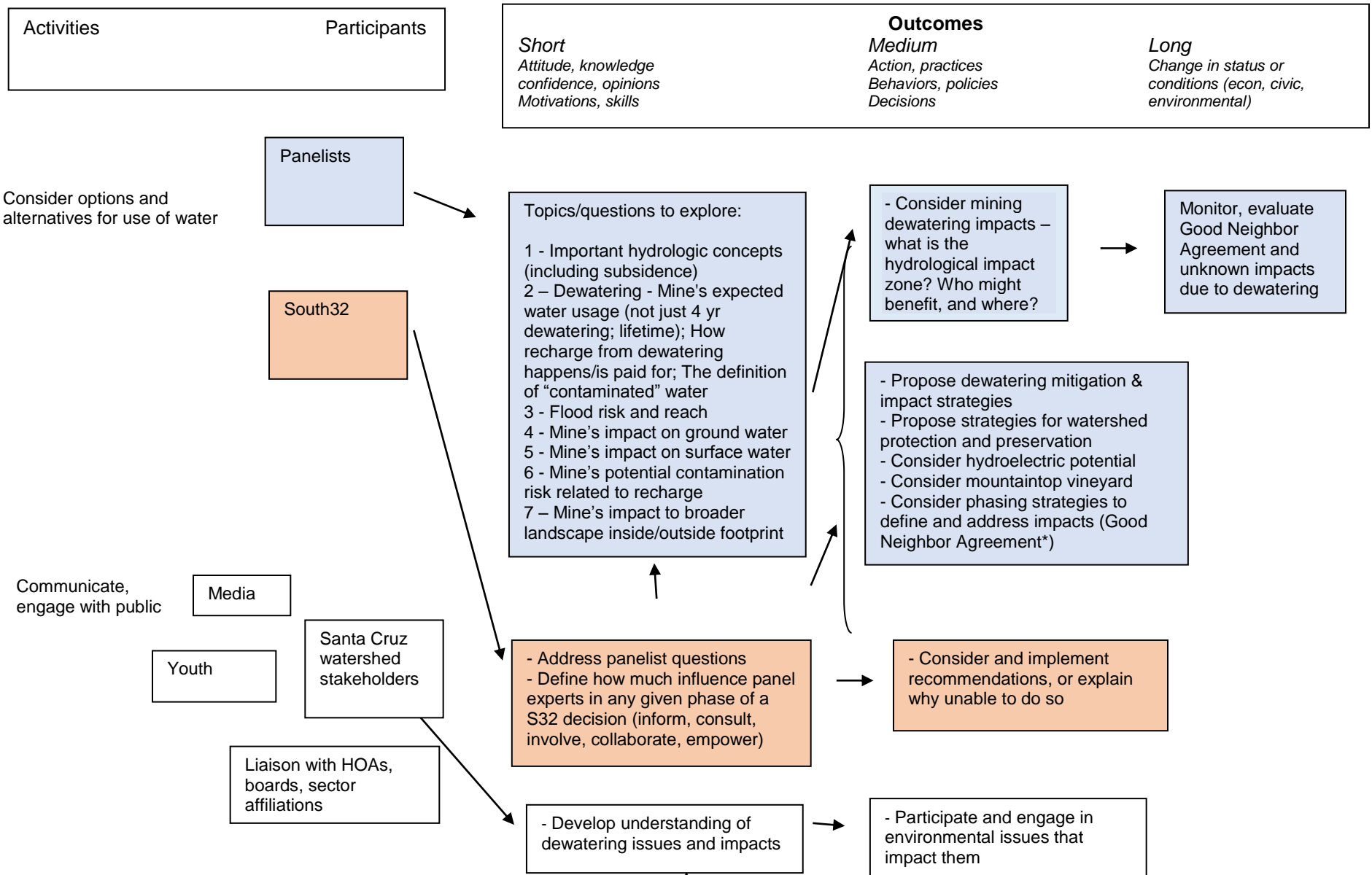
Should the Advisory Panel wish to issue a press release or make a statement to the media on behalf of the members, this would need to be unanimously agreed to by the members. Any statement or press release would be drafted by the facilitator and provided to all Panel members and South 32 for review and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

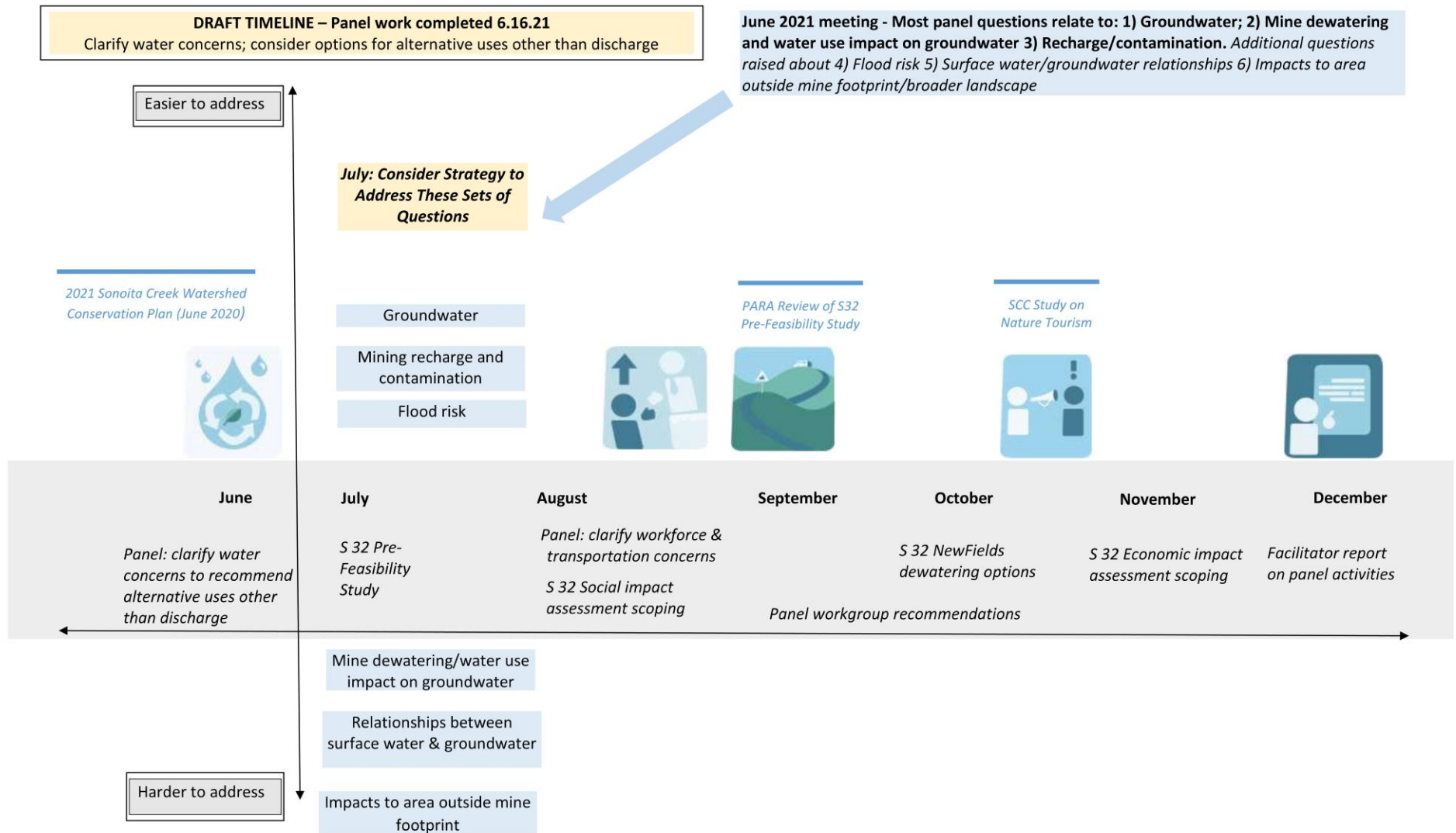
In May, the panel worked in groups to prioritize questions related to water related impacts that were most important to explore before making recommendations to South32. Dr. Donelson created the **water issues decision map** from the feedback below. It was used to frame deeper conversations on these 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
<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● 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) 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● 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? 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● 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? 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● Need corporate engagement and funding if we are are training workers 	<ul style="list-style-type: none"> ● 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).

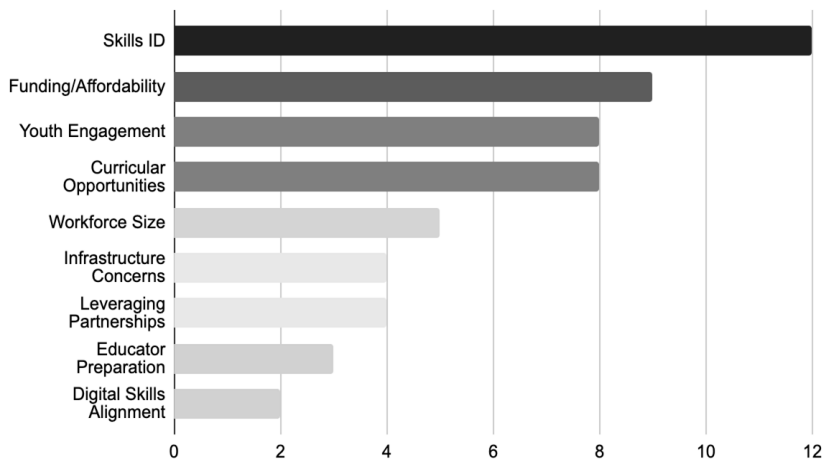


Figure 1 - Data Party Themes

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