

Agenda

Hermosa Advisory Panel Meeting #3 June 16, 12p-2p

Patagonia Public Library, 46 Duquesne Ave (inside Cady Hall)

- 12:00 Working Lunch
Review Agenda and Acceptance/Amendments to Meeting Minutes
- 12:10 Panelists – New Member Welcome; Study and Report Updates
- Patagonia Area Resource Alliance
 - Other
- 12:30 Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge
- 12:45 Data Party Review/Update and Prioritize Questions for Panel To Address
- 1:10 Timeline Discussion – Rank Order Process For Recommendations
- 1:45 Timeline Discussion - Feasibility and Next Steps
- 1:55 Looking Ahead - Agenda for July 21

Hermosa Advisory Panel Meeting #3
June 16, 2021 12p-2p
Patagonia Volunteer Fire & Rescue, 142 N 3rd Ave

The meeting of the Hermosa Advisory Panel Meeting #3 was called to order at 12:02 pm on June 16, 2021 at Patagonia Volunteer Fire & Rescue, 142 N 3rd Ave by Angie Donelson.

Attendance

- Meeting Facilitators: Angie Donelson, Robin Breault
- South 32 Hermosa Advisory Panel Members: Adelmo Sandoval, Carolyn Shafer, Damian Rawoot, Gerry Isaac, Linda Shore, Liz Collier, Marcelino Varona, Mark Beres, Michael Young, Ruth Ann LeFebvre
- **New panel member Gerry Isaac, successor to Ron Robinson. Ron is unable to continue with the panel**
- South 32 Hermosa Advisory Panel Members Absent: Jaime Chamberlain, Olivia Ainza-Kramer, Maritza Cervantes, Nils Urman
- South32: Melanie Lawson
- Scribe: Lizbeth Perez

12:00 Review Agenda and Acceptance/Amendments to Meeting Minutes

- Marcelino: Governor Ducey is visiting Nogales today ○ Jaime, panel member and chairman of the Nogales Port Authority, invited the governor to his new produce warehouse inauguration; some other panelists are also at the meeting
 - Marcelino was invited, declined to attend the panel's work
- Melanie: Minutes from April are now up on the South32 site ○ Advisory panel agenda documents uploaded at <https://www.south32.net/hermosa/documents>
- Angie: Update on Last Month's Voting/Terms of Reference Results ○ **Official panel name – Santa Cruz County Advisory Panel on the South 32 Hermosa Project** ○ **How many meetings should panelists be able to miss per year? – 3** ○ **What proportion of members should constitute a quorum of the panel? – 2/3rds** ○ **What proportion of votes of the panel is sufficient to pass an action item? – 2/3rds** □ Carolyn: Clarification, 2/3rds of a quorum would be 9, would 2/3rds for voting be 9?
 - Angie: 2/3s of all members to pass action item ○ Clarification will be added to the terms of reference

- Carolyn: On meeting #2 minutes, Pat Risner's report about South32 prefeasibility study done in mid-July, does not recall if that was said.
 - Melanie: Prefeasibility stage is done, report will be available mid-July
 - Carolyn: Early July?
 - Melanie: Mid-July
- Carolyn: On meeting #2 minutes about the new drilling prospects, were geophysical surveys begun or completed?
 - Melanie: Completed, minutes will be amended
- Carolyn: Asked for clarification on meeting #2 minutes about Mark Beres drilling footprint question. Question was: Roughly how far the drilling sites from SR 82, and what is their footprint?
 - Melanie: Reaffirmed the pad footprint about the size of a water well. South32 will move from original Hermosa site to prospective site on Flux Canyon (not off of SR82). Minutes to be amended.
- Gerry: Does panel member have to be at the meeting to vote?
 - Angie: Yes

12:10 Panelists – New Member Welcome; Study and Report Updates

- Gerry Isaac new panel member, Patagonia resident and Owner, Stage Stop Inn / Wild Horse Restaurant. He is current chair of the Patagonia Planning and Development Committee, past president and treasurer of the Sky Islands Tourism Association, and Current Board Member of the Santa Cruz Foundation for the Performing Arts.
 - He has replaced town manager Ron Robinson, who can no longer continue with panel
- Panelist introductions for Gerry Isaac – Each shared why they are on this panel:
 - Mark: Owns and operates farms (wine-growing operations in Sonoita); here to provide input to South32 on the wine industry, lives in Sahuarita
 - Michael: Assistant principal @ school, long time resident of Patagonia, property owner, belongs to many orgs and volunteers with Fire Department, Marshals Office, 4H, FFA, heavily impacted by road and mine, grandfather was a miner and main hydraulic operator

- Ruth: Lives in Sonoita, photographic artist, on panel because of the ground water issue. Main concern is: After dewatering, will the aquifer recover?
- Damian: The Nature Conservancy, does work in Patagonia at the Sonoita Creek Preserve; concerned about changes in this area, wants to support conservation and identify ways to mitigate or offset impacts.
- Linda: She is part of 3 generations of Patagonians (children and grandchildren); lives off Harshaw Rd – likely the main route for South 32 will be in front of her house. Her well recently had problems and she had to buy water from town. Well has recovered but it is hard to know what is happening with local groundwater.
- Gerry: wants to understand what can be done to mitigate potential risk but also wants to understand the potential benefits – especially education, vocational training, job opportunities for benefit of next generation. Interested in understanding the demographic changes that could be coming to town.
- Marcelino: great interest in environment, wants to continue to learn about what is happening. Would like to see what opportunities could make the quality of life better for SC county.
- Adelmo: impact on our economy, especially education. Responsible for 6,000 students – how can students benefit from this industry?
- Carolyn: lived in community for 26 years. Concerned with water as historical mining is much different than current mining operations.
- Liz: lived in area 23 years. Is here on behalf of the HOA - homeowners are already having challenges with their wells. Also interested in jobs mine will need and what kind of training/classes they can offer.
- Patagonia Area Resource Alliance - Carolyn Shafer
 - Nothing more important than water
 - Link on today's handout (see PARA informational sheet at end of minutes) is presentation by 2 hydrologists retained by PARA to review South32's work
 - South32 report was done on 4-year dewatering program; would like to know more than the 4-year impact. Other concerns raised about potential mine life, how much water will be used, area of impact considered for the study

- PARA also has comments on the South 32 permit application. Comments signed by the Town of Patagonia and 11 conservation organizations
- Gerry: Watched video, excellent, in terms of recommendations of the consolidated study. Did they have any kind of estimate of what would be involved in doing that study, financially, timewise?
- Carolyn: Flood and flow committee has not yet asked, will talk about monitoring: what is missing, and what they believe also needs to be in place. Will be part of what will be taken up with South32
- Angie: Although it will be helpful to gain information from all studies, this group will not making decisions about permitting. However, they can be informed
- Mark: Feels lost in details. What is the takeaway? Will water be available for the area, and potable?
- Carolyn: It is a time of climate crisis and there are major concerns about water supply of this state. What will happen after 50-year mine life?
- Ruth Ann: The back and forth is confusing, how will that be resolved, or is this going to be an ongoing thing?
- Angie: This is part of a conversation the panel will continue to have, but need to cut the discussion short in the interest of time for this meeting. Flood and flow committee issues will be resolved at that level, and panelists will be informed about those meetings; this group can present relevant questions it would like to answer as it relates to dewatering
- Marcelino: Wants to make sure discussion won't be reduced by time constraints. Water is very important topic
- Linda: We need to focus on what we need to do, we are not the Patagonia flood and flow committee
- Angie: We will have an opportunity to explore more questions later this meeting and into the future

12:30 Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge

- Angie referenced slides 2-3 (see attachment)
- For each topic you consider to give input to South 32, we will continue to come back to the question: How much influence do panelists have? This will be a negotiated process as shown in the continuum of participation. One panelist raised an important issue I shared last time: "Will South 32 commit to what the panel decides to act on? They do not have to do anything the

panel advises. Or are we just going to suggest best routes, best practices, and community engagement?”

- If panelists, for example, decide to engage in route selection, panel participation on that specific issue will be consultation only – the company is making a decision about it -- they have already solicited public feedback through various open houses.
- Going back to the continuum of participation will help you clearly define what you want to decide on as it relates to dewatering, transportation and workforce issues
- Angie referenced slide 4 (see attachment) Some of you expressed concern about making decisions prematurely, without sufficient background information. I took the information you shared last time and created **water issues decision map** handout -- a process by which you can gather and identify questions to address before making decisions. Met with Damian/Ron/Carolyn between this meeting and our last meeting (because they are more informed than most of us about local water issues) to refine this. We will continue to improve this with your feedback today and continue to refine in the future.
- Today we will be talking about how to work through those questions, prioritize them, put them on a timeline in relationship to panelist activities and South 32 planned work in the next 6 months.
- Damian: we’re talking abstractly now but once we hear more about the South 32 Pre-Feasibility Study it will make more sense.
- Angie: This process of asking and prioritizing questions can help define your work not as a marketing exercise for South 32, but as a transparent decision-making process where the panel asks questions before making recommendations.

1:07 Data Party Review/Update and Prioritize Questions for Panel To Address

Panelists engaged in exercise where they ranked ordered questions on dewatering and water issues they wanted to know more about and prioritized them.

1:17 Timeline Discussion – Rank Order Process For Recommendations

- Angie provided an overview of activities on a timeline from June-October 2021. Icons represent activities panelists are undertaking; items for which South 32 is responsible are also shown. The timeline runs through December 2021, but will activities will continue beyond December.
- Key date: October: panel could recommend technical options to NewFields (contractor to be retained by South 32) for dewatering
 - Melanie: one example that came up after last month's meeting is rapid infiltration. The panel could make 1-2 recommendations or give feedback to Newfields.
- Melanie: The timeline can shift somewhat for some activities on the timeline. For example, the economic impact assessment, planned for November, could change based on the Pre-Feasibility Study recommendations to be released in July.
- December – no meeting planned; report from facilitator on activities to date

Panelists engaged in exercise: identified questions on post-its they would like to know more about as it relates to dewatering issues. They attached them to the timeline along with reports and studies they are aware of that relate to this work (see attachment).

1:45 Timeline Discussion - Feasibility and Next Steps

- Panelists discussed how they might best get answers. There was agreement that speakers are needed to address the panel about these questions.
- The panel agreed it would benefit from handouts and possibly short videos as well. Panelists agreed that it was important not be overwhelmed by information, but get answers to their questions as it relates to alternative uses of water other than discharge.
- July meeting: will review a strategy to address the questions raised at this meeting.
- Panelists ended with reflection on how they are feeling and for what they are grateful.

2:05 Next Steps/Looking Ahead - Agenda for July 21

- Wrap up and Survey
- How are you feeling about this process? What could improve?
 - Encouraged - I like that we started with water. Certainly address the questions asked.
 - Good – want to spend time productively. Encourage members to do research outside meeting time.

- Positive – but I think the group as a whole is somewhat overwhelmed. I think the process will improve as we shift from abstract concepts to understanding the mine’s plans.
 - Large subject within timeline, but manageable. Panelists need more homework. ○ It is getting more interesting. Manage time for participation. ○ Rushed – this is a major project with significant repercussions.
 - Good – panelists need to commit to educating themselves on their own time between meetings.
 - I am comfortable. Topics assigned reasonable time for discussion and comprehension.
 - Very good – concerned about anti-mining sentiment. Protect the culture by reinforcing at the start of each meeting the purpose of the panel/what is isn’t.
 - Feeling good. I appreciate the graphs and charts. More time for discussion and questions.
- How well have you felt heard so far? (0-5, with 0 not at all and 5 very well)
 - 3 (1)
 - 4 (4)
 - 5 (6)
 - Agenda for Next Meeting - July 21, within Cady Hall

South 32 Pre-Feasibility Study release/discussion; strategy for addressing panelists’ questions about South 32 dewatering. Meeting adjourned 2:09

**INFORMATION for the Santa Cruz County Advisory Panel on Hermosa Project
Presented by Panelist Carolyn Shafer as PARA Board Member: June 16, 2021**

“Assessment of Hydrologic Risks and Concerns Related to the Hermosa Mine Project”

At the Patagonia Flood & Flow Committee meeting on June 10, Patagonia Area Resource Alliance’s hydrology experts presented their “Assessment of Hydrologic Risks and Concerns Related to the Hermosa Mine Project.” The [recording of the presentation is available at this link](#) (NOTE: presentation begins at minute 14). I believe it would be beneficial for the members of the Santa Cruz County Advisory Committee on the South32 Hermosa Project to review this information and to have an opportunity to speak directly with these experts and I suggest that the hydrologists be invited to a future meeting of this panel.

SOUTH32 Permit Applications to AZ Dept of Environmental Quality

South32 filed two modifications of its existing permits for the Water Treatment Plant #1 which discharges into Alum Gulch. These permits are modified to allow for a second Water Treatment Plant to discharge into Harshaw Creek.

“APP” = “The Aquifer Protection Permit is designed to protect the groundwater aquifers of the State of Arizona . The intention of the permit is to prevent further degradation of an aquifer at a point of compliance by. any person/company that operates categorical discharging facilities.”

“AZPDES” = “Arizona State Pollutant Discharge Elimination System Permit (14-AZ-b) Section 402 of the Clean Water Act (CWA) requires developers to obtain a National Pollutant Discharge Elimination System (NPDES) permit for all facilities which discharge pollutants into navigable waters of the United States.”

The comments were prepared by Patagonia Area Resource Alliance’s (PARA) experts: AZ water rights lawyer, Sue Montgomery, and hydrologists Laurel Lacher and Bob Prucha. In addition to PARA, the comments were signed by the Town of Patagonia and 11 conservation organizations— AZ Mining Reform Coalition, Borderlands Restoration Network, Center for Biological Diversity, Defenders of Wildlife, Earthworks, Friends of Santa Cruz River, Friends of Sonoita Creek, Save the Scenic Santa Ritas, Sierra Club Grand Canyon Chapter, Sky Island Alliance, and Tucson Audubon. PARA requested that the federal Environmental Protection Agency exercise oversight of the state process and that request was affirmed in writing by Congressman Raul Grijalva as Chairman of the House Natural Resources Committee.

The full comments are available at these links:

- [APP Comments](#)
- AZPDES [Original Comments](#) and [Supplemental Comments](#)

Summary of APP comments:

A summary of the hydrologists concerns include:

- This is an entirely NEW and significantly larger discharge into a different waterway with different water quality implications and should be handled as a separate and new APP permit process.
- An assessment of the full range of hydrologic impacts for the life of the mine must be conducted in order to develop protective discharge limits and monitoring requirements.
- The lower Harshaw Creek alluvium and Sonoita Creek alluvium are both drinking water aquifers and may not be degraded by mine discharge in any way that impairs existing or reasonably foreseeable uses of water in those aquifers as specified by law.
- Additional Points of Compliance with increased monitoring frequency are necessary.
- EPA Secondary Drinking Water Standard contaminants should be included.
- The proposed discharge and points of compliance monitoring requirements are not consistent with state and federal standards.

A summary of the legal comments:

- The Draft APP Permit violates AZ law
- Should be a new application NOT an amendment
- Must require actual rather than conceptual points of compliance
- The Pollution Management Area in the permit does not comply with state law

Summary of AZPDES supplemental comments:

April 7 was the deadline for the original comments; then South32 modified that permit application and ADEQ issued a “major modification” with a comment period that closed May 31. In addition to the original comments, the supplemental comments reiterated all original comments that were not addressed such as:

- The sampling requirement is insufficient to protect surface water and underlying groundwater systems
- The metals limits are for TOTAL recoverable metals, not dissolved metals which is what standards are based on
- Different narrative requirements for Alum Gulch and Harshaw Creek appear arbitrary and require explanation
- Only one point of compliance is listed; additional compliance points are necessary •

No hydrologic study has been conducted to examine the range of potential outcomes.

Hermosa Advisory Panel Meeting #3

June 16, 2021

Hermosa Advisory Panelists

What Can You Influence?

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

Define, Agree on How Much Influence You Have At Different Points in Negotiating with S32

Example: Transportation Routes

developed by the international association for public participation

Road design and mitigation strategies

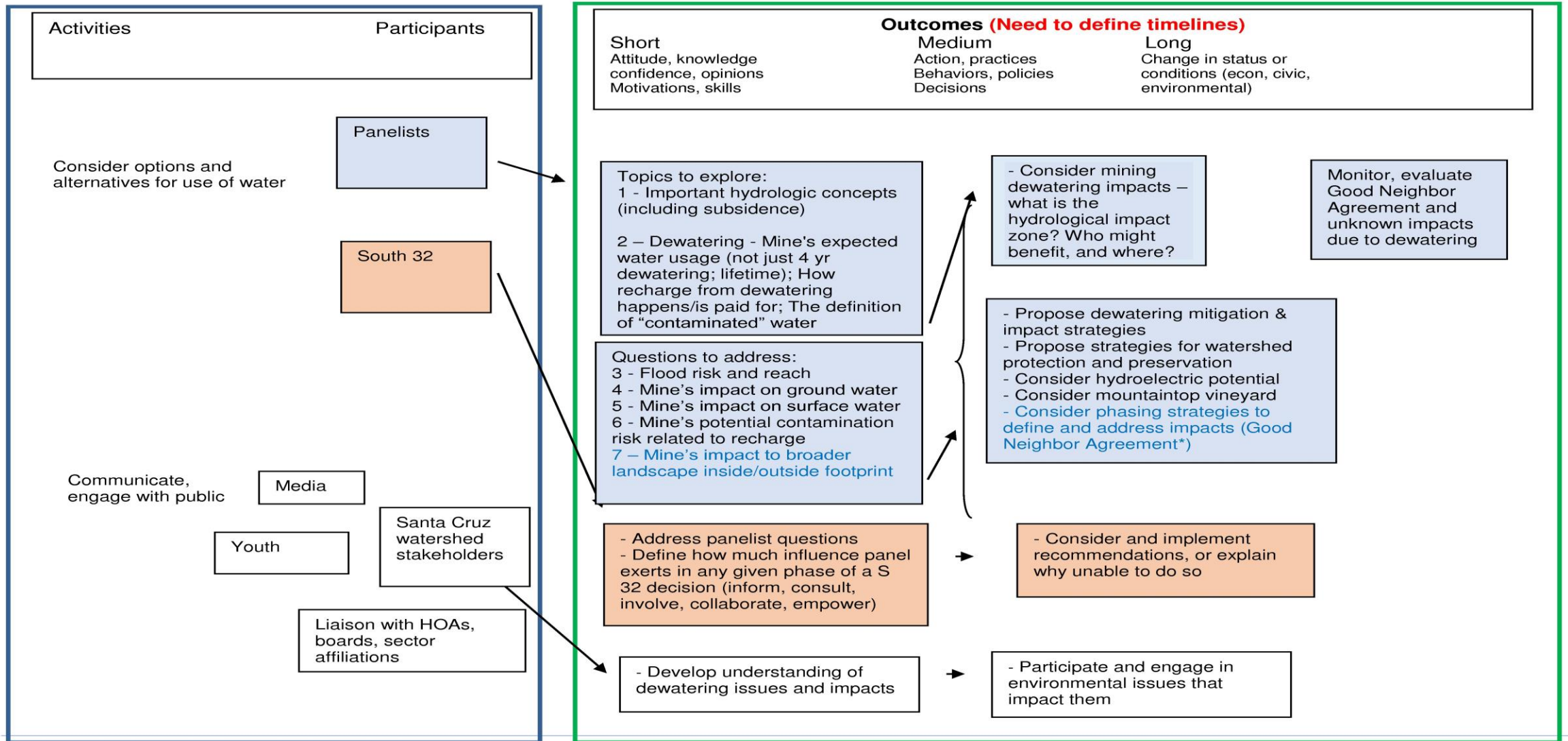
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decision.	To work directly with the 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

DRAFT #1 - 6.16.21 discussion

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

Outcome Statement: Clarify Water Concerns and Consider Options for Alternative Uses Other Than Discharge



DRAFT TIMELINE – Panel work completed 6.16.21
 Clarify water concerns; consider options for alternative uses other than discharge

June 2021 meeting - Most panel questions relate to: 1) Groundwater; 2) Mine dewatering and water use impact on groundwater 3) Recharge/contamination. Additional questions raised about 4) Flood risk 5) Surface water/groundwater relationships 6) Impacts to area outside mine footprint/broader landscape

Easier to address

July: Consider Strategy to Address These Sets of Questions

2021 Sonoita Creek Watershed Conservation Plan (June 2020)



- Groundwater
- Mining recharge and contamination
- Flood risk



PARA Review of S32 Pre-Feasibility Study



SCC Study on Nature Tourism



June

July

August

September

October

November

December

Panel: clarify water concerns to recommend alternative uses other than discharge

S 32 Pre-Feasibility Study

Panel: clarify workforce & transportation concerns
 S 32 Social impact assessment scoping

S 32 NewFields dewatering options

S 32 Economic impact assessment scoping

Facilitator report on panel activities

Panel workgroup recommendations

Mine dewatering/water use impact on groundwater

Relationships between surface water & groundwater

Impacts to area outside mine footprint

Harder to address



SCC Advisory Panel on the South 32 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. Photos of the ranking process of panelists' priorities are shown on p. 3.

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 South 32's mining operations be removing annually?
- What method of dewatering is South 32 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?

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). Same for transportation and workforce development.

HYDRO CONCEPTS
 1 | 2 | 3 || 4 ||| 5 | 6 | 7 |||
 speaker ||| ft | read ||| other |

DEWATERING
 1 ||| 2 | 3 ||| 4 | 5 || 6 | 7 |
 speaker ||| ft ||| read || other

FLOOD RISK
 1 ||| 2 | 3 | 4 | 5 ||| 6 | 7 |
 speaker ||| ft || read ||| other

GROUND WATER
 1 ||| 2 ||| 3 | 4 | 5 | 6 | 7 |
 speaker ||| ft || read || other

SURFACE WATER
 1 || 2 || 3 | 4 | 5 | 6 || 7 |
 speaker ||| ft || read || other

CONTAMINATION RISK
 1 | 2 ||| 3 | 4 ||| 5 | 6 | 7 |
 speaker ||| ft || read ||| other

LANDSCAPE / FOOTPRINT
 1 || 2 | 3 | 4 | 5 | 6 ||| 7 |||
 speaker ||| ft ||| read ||| other

① GROUND ④ CONCEPTS ⑦ FOOTPRINT
 ② DEWATER ⑤ FLOOD
 ③ RECHARGE CONTAM. ⑥ SURFACE

- ① GROUND
 - ② DEWATER.
 - ③ RECHARGE/CONTAMINATION
 - ④ HYDRO CONCEPTS
 - ⑤ FLOOD
 - ⑥ SURFACE
- Speakers