

Agenda

Hermosa Advisory Panel Meeting #10 Wednesday, February 16, 12p-2p

Wild Horse Inn - 309 W McKeown Ave, Patagonia

- 12:00 Review Agenda
- 12:05 Introduction of new panelist: Fritz Sawyer
- 12:10 Acceptance/Amendments to Meeting Minutes (January) and Charter
- 12:15 Panelists: Report Updates
- Patagonia Area Resource Alliance
 - The Nature Conservancy
- 12:25 South32 prefeasibility update: Pat Risner
- 1:00 Review and discuss South32 routes brochure: Melanie Lawson
- 1:15 South32 Updates: Community Open House; consultant progress/panel role in Social Impact Opportunity Assessment, Local Procurement scope of work: Melanie Lawson
- 1:25 Scope of Work with Tod Newman – machine learning/natural language processing for Good Neighbor Agreements
- 1:30 Newfields dewatering options roadmap and progress on Good Neighbor Agreements literature review: Dr. Ty Ferre
- 2:00 Wrap Up and Looking Ahead: March 16 meeting

Minutes

Hermosa Advisory Panel Meeting #10 Wednesday, February 16, 12p-2p

The meeting of the Hermosa Advisory Panel was called to order at 12:01 pm on January 19, 2022, at the Wild Horse Inn on 309 W McKeown Ave, Patagonia by Angie Donelson.

Attendance

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

12:01 Review Agenda

12:07 Introduction of new panelist: Fritz Sawyer

12:08 Acceptance/Amendments to Meeting Minutes (January) and Charter

- Charter amendment: Panelists can miss more than 3 meetings in event of family emergency/sickness. Was approved by panel, via poll online, 2.7.22
- Minutes approved (see Appendix A), no objections.

12:08 Panelists: Report Updates

- Patagonia Area Resource Alliance
 - Handout (Appendix A) contains update on PARA's aquifer protection permit appeal and their concerns with the Prefeasibility Study (PFS).
 - Distributed copies of February Patagonia Regional Times February story on release of the PFS.

12:25 South32 PFS update: Pat Risner

- See Appendix B for slide deck
- PFS is for the Taylor resource. It is the largest undeveloped zinc/lead resource in the world. PFS is an internal decision-making document for senior executives of South32 and board to take the project forward. It is based on economic viability, not intended to analyze environmental or community impacts, though those will be done in due course.
- The full PFS document is restricted for competitive reasons.

- As operation expands, will go through NEPA process for operations on Forest Service land.
- Also releasing concept study on the Clark resource (manganese); PFS on this resource will occur later. South32 believe there is an opportunity to integrate development of both the Taylor and Clark resources.
- Slides show cross section of how Clark and Taylor are configured and why they'd be developed as one. Red traces are drilling holes.

- Ty Ferre: For the cross section, would you have to dewater everything that's shown there in color?

- Pat Risner: Yes Analysis of the metals market show growth in zinc, silver and manganese. Zinc is used to galvanize steel. Manganese is being proposed on the US "critical minerals list" for its importance in addressing climate change. This would be the only manganese mine in North America. Only one other mine in the US produces zinc or lead.
- Economic impact study progressing. Will be going through that with county officials shortly and then will release. Will have specifics about tax revenue, direct and indirect employment. Currently 100 employees, with 400 full time jobs projected over the next year, and 600 full time jobs projected once in full operation.
- The PFS projects the Taylor operation lasting 22-25 years.
- Mining method: disturbance will be a few hundred acres. Goal is to be the first carbon neutral mine in the world with zero operational greenhouse gas emissions by 2050 (anticipating electric vehicles and Tesla semis, if in commercial operation by the time mine is producing). Looking to fully power mine with renewable energy.
- All initial mining confined to private lands; surface infrastructure will occur on private lands that are already disturbed (on footprint of past mine).
- Taylor feasibility phase will conclude in May of next year.
- Clark has now moved from concept phase into PFS.
- Capital investment anticipated May/June next year. If approved, would move into surface facility construction in 2025, with ore production anticipated in 2027.
- Will continue to engage with public in regard to permitting actions.

- Carolyn Shafer: You say PFS is for internal decision, but according to the Australian Stock Exchange, the PFS should be available to public for investment purposes. Perhaps you have mislabeled this as a PFS?

- Pat Risner: Summary of the outcomes of the PFS has to be provided to investors, and that was done.

- Carolyn Shafer: That is true but according to the Australian Stock Exchange the public is also supposed to have access to the full report.

Pat Risner: I don't believe that is accurate. We'd be happy to talk about that more but I think that is incorrect. We have an investor relations group in the company that deals with the NASDAQ every day. We vet the types of information we're going to release to make sure it meets market requirements, as was done in this case.

- Carolyn Shafer: Appreciates South32's approach to climate change, recognizes value of these minerals for moving away from CO2 emissions. However, equally important to climate change issues are species extinction, and these mountains are identified as being one of the top regions of the world in need of protection for species survival.
- Linda Shore: Back to the first point about internal usage of PFS. We were told so many times when we asked questions to wait on the PFS. If it was always intended for internal consumption only, then don't tell the public to wait for it.
- Pat Risner: What we said is that we'd release outcomes of PFS and then engage with you on those outcomes and take questions that arose from those outcomes. PFS enables conversations important to you that we couldn't have prior to its completion. Information was required to be given to investors before the public, so we are in better position to engage on this now than before.
- Linda Shore: Appreciate that in hindsight, but we didn't know we wouldn't get to see entire thing, so this is about expectations management.
- Pat Risner: We did have meetings where we said explicitly the full study wouldn't be released, just a summary of outcomes. We needed the PFS to engage with you on those outcomes.
- Marcelino Varona: What percent of the workforce do you anticipate being from Santa Cruz County?
- Pat Risner: Aim is for as many as those as possible. We do not have all the requisite skills at the moment, which is why workforce development programs are important. We have time to build the workforce here, but we have to do a lot of things to build it. Aspire to hire 80% or more of workforce locally, with a preference for Santa Cruz County residents.
- Marcelino Varona: What will you be doing with dewatering process that will affect the riverbed?
- Pat Risner: Ore body surrounded by groundwater, so installing 9 dewatering wells to pump it out. Water doesn't meet surface water standards naturally, will treat it and direct to Harshaw Creek.

- Melanie Lawson: Dr. Ferre's roadmap presentation today will answer some of those questions.
- Damian Rawoot: Question on sourcing renewable energy. Will you be purchasing electricity or developed sources locally? Or is that uncertain?
- Pat Risner: All of that. Believes enough renewable energy could be purchased to power mine. Better option would be to develop solar energy in the area. We have options for all of those, just need the best combination of options for our use.
- Fritz Sawyer: Explain why dewatering dollars are moving forward before the Feasibility Study is completed.
- Pat Risner: Done as much underground mapping as can be done with surface drilling. To effectively prove viability of underground mining operation, need to get underground to sample more. Need to sink shafts to do that and have underground exploration phase before starting production. To sink shafts, water needs to be moved for safety. Dewatering is a priority.
- Ruth Ann LeFebvre: Have you created a model to see if aquifer will recover and how long it will take so that the groundwater goes back to where it is now? Are there models for that, are you doing a study?
- Pat Risner: That is something to ask when Ty comes up, I am not the expert. We have done extensive modeling and data collection, all of that gone into design and permitting, but it's a question for Ty.
- Ruth Ann LeFebvre: Certainly, it would be in your best interest to be able to say it will recover.
- Pat Risner: We have to keep mining environment dry while people are down there working and throughout the life of the mine. We do look at closure plans in PFS, so we've looked at reclamation.
- Ruth Ann LeFebvre: Wondering if it's possible that after 10 years you can stop operations to see how fast it will recover instead of waiting 27 years to see how it will recover.
- Pat Risner: Technically there's ways we can test that, I think that's better to discuss with Ty. We would lose the mine for a period of time, and we don't plan on doing that. For the life of the mine, we have to keep it dry because it's a safety issue.
- In early stages of PFS, the preferred route for hauling ore was Harshaw Rd, but community feedback showed that was not preferred. Preferred long term route for haulage is now Flux Canyon. Would be required to go through federal permitting process

- so it is not happening in the near term. What we're proposing coming out of the PFS is Harshaw Rd to SR 82 until Flux Canyon Rd is in place for long term use.
- Continuing to work with county for multi modal port option (railhead facility in Rio Rico). That is best for a long term option, but for early production it would be Harshaw and Cross Creek Connector.
 - With Cross Creek Connector, we so intend to donate a portion of private lands to county and seek easement back through those private lands for temporary route until we no longer need it. Then county can take land for restoring to open space, recreational purposes.
 - Traffic impacts: Numbers of trucks leaving Hermosa site (outbound traffic) on daily basis starts at less than 30 a day, ramps up to 65 on average and a peak of 80.

 - Melanie Lawson: Presented last slide in Appendix B on public process as it relates to the transportation route. Panel is being informed about the route selection process, and public feedback was solicited prior to the creation of the panel. This now will go to the county next for the Board of Supervisors' consideration in a public meeting. Long term, we propose to work with community stakeholders and the panel for the consideration of public uses and amenities. Similarly, the Flux Canyon would run through public processes, including National Environmental Policy Act (NEPA).

 - Linda Shore: For roads, you should call it easy and hard. Cross Creek is easy since you already own the land. Flux Canyon is hard, because if it is inhibited because of NEPA you don't get those approvals. Then Cross Creek is the long-term solution, right?

 - Pat Risner: There is a county easement through Flux Canyon already. We would have to construct a road which requires a federal permit. We do believe we can get through that process.

 - Melanie Lawson: To be clear, Flux Canyon will not be a separate process, it's part of NEPA for the entire project.

 - Ruth Ann LeFebvre: Have you started that process yet?

 - Pat Risner: Have not, can't start until you are prepared to enter that process.

 - Liz Collier: There was a third route, that went down through San Rafael Valley, has that been rejected?

 - Pat Risner: Because it was considered to be the most environmentally impacted road, that option was rejected.

 - Linda Shore: If you are donating land to the county, how many acres of what you own will be coming back to county at the end?

- Melanie Lawson: Total land proposed to donate is about 70 acres.
- Fritz Sawyer: Have you factored in all types of traffic?
- Pat Risner: We have all that.
- Fritz Sawyer: You're still coming up SR83 for all your trucks?
- Pat Risner: Not long term. Initially will have to come that way, but long-term we can do inbound logistics through Flux Canyon if we wanted to go around.
- Melanie Lawson: Construction would come up SR 82. We will do detailed traffic studies to see if SR 83 is feasible. Will look at volumes, ADOT requirements.
- Pat Risner: We will have staging and warehouses somewhere else not along the corridor.
- Linda Shore: I have a question about trucks; the PFS seems to indicate double trailers.
- Pat Risner: That's an icon. There are no pictures of an actual truck yet, it wouldn't be a double trailer. Concentrate gets loaded into sealed container; it is completely sealed and gets placed on a bed.
- Gerry Isaac: What is the size of the container?
- Pat Risner: It's not as long or high as normal truck but carries 22 tons. Could share pictures.

1:18

Review and discuss South32 routes brochure: Melanie Lawson

- Melanie share a draft for panel information and feedback of the South32 routes brochure. It explores how South32 arrived at the current temporary route selection on Cross Creek Connector and Flux Canyon Road.
- Angie Donelson: When do you want this to go to print?
- Melanie Lawson: Before open house in next couple weeks. Submit comments by Feb 25th
- Ruth Ann LeFebvre: Do you know far county is on the Rio Rico railhead idea?
- Pat Risner: Some work is going on to secure resources to do a feasibility study on railhead. We're going to support that however we can, we think it important long term. It would be for multiple industry sectors if developed.

- Angie Donelson: Can give an update. On behalf of Santa Cruz County, submitted proposal to Department of Transportation last summer. Wasn't funded but reached top 30% of proposals, went to the Department of Transportation (DOT) Secretary's staff for final selections. Recently received good feedback from DOT to strengthen grant and resubmissions are due in April. Recommends the county pursue a resubmission.
- Melanie Lawson: Angie has taken the work and summarized it into scope for work for a market analysis. South32 will start that process and it will provide information for our feasibility study on potential use of that rail.

1:25

Newfields dewatering options roadmap and progress on Good Neighbor Agreements literature review: Dr. Ty Ferre

- Was disappointed with the lack of detail when reading the PFS as well. South32 has fiduciary responsibilities and there are things they can't say, but there's no limit on what panel can ask. Panel should ask questions and we can document to keep a record. Would be useful to have a record of communication and documentation of what questions we have, which are being answered, and which are outstanding. This would also help get ahead of misunderstanding.
- We have 2 groundwater models: detailed models that can drive regional modeling. Goal is working with you is to help you understand these models and address the concerns and questions you have.
- Good neighbor agreements (GNA) coincide with models. Models are always uncertain, they do the best they can, but they don't know the exact outcomes of something. We must think about what questions we have, and which can be answered with models, and which will have to be pushed into a GNA to discuss what happens in face of uncertainty.
- Anything South32 is going to tell me is public. In times where South32 can't discuss something, Ty will report that as well.
- Has two specific concerns: Had the impression that modelling had been done with dewatering in mind. Also wondering if South32 is allowed to pump more than original projections with their permit; important to understand the maximum discharge rate.
- Was hoping to see details of what Newfields had done in their analysis. Wanted to understand the different options and their strengths and weaknesses. Even if the best solution is to discharge into Harshaw Creek, if flooding were to occur, the mine would still have to discharge water. Contingencies in the GNA should account for solutions to problems we think we may have.
- Marcelino Varona: Is that a part of the GNA, to have something like that?

- Ty Ferre: I think that is should be. GNAs are new enough and flexible enough that they could be dealing with hydrologic uncertainty.
- Wanted to touch on aquifer recovery. If we want to have analysis on that, we can ask for pumping data to be collected during production to improve their models and so those models can be used for predicted recovery. The way an aquifer reacts during pumping signals at how it will recover.
- Carolyn Shafer: Important to me to include in a hydrologic study is impact of backfill. That will have an impact on local geohydrology.
- Ty Ferre: My first take is, if you think about mountains, they're mostly filled with rocks with small fractures. What will be left behind will not be filled with cement, so holes will be more conductive than before. Considering impact is an excellent question.
- Fritz Sawyer: What does this have to do with Newfields? Are you interacting with them?
- Ty Ferre: Newfields is company modeling the mine operation. Will interact with them soon to get reports. As hydrologic intermediary, I'm not doing the modeling. I'm trying to get what is important to you, and how do we translate panel concerns to make sure models that Newfields is building will answer your questions. Will review how model is constructed. Findings would be given back to Newfields.
- Marcelino Varona: Pat has been saying they've been looking at models for decisions, are those models available to us to look at?
- Ty Ferre: Hydrologic models use operational models to plan dewatering; we need the outcomes of those modesl

1:45

South32 Updates: Community Open House; consultant progress/panel role in Social Impact Opportunity Assessment, Local Procurement scope of work: Melanie Lawson

- South32 Community Open house will be held outdoors on March 25th
- Role of panel could be to talk about role, process, issues that have come up, and how they have begun to address concerns and questions with their technical assistance budget. Opportunity for panelists to interact with neighbors and public and get their input.
- Ruth Ann LeFebvre: How is information getting out?
- Melanie Lawson: We will advertise in newspaper and hang flyers in Sonoita, Elgin.
- Ruth Ann LeFebvre: We had the open house in Sonoita last time. Need to let neighbors know that they would need to come to Patagonia.

- Fritz Sawyer: What's the topic of what you're going to be releasing to the public?
- Melanie Lawson: I have an outline going, will share with panel. Will probably follow similar outline like today with topics touching on water, mining methods, key dates, information on wildlife monitoring. Will be including information about open positions and who will be accepting resumes. If you want something added, let me know.
- Angie Donelson: Would be helpful to have that year-end report out to the public so they know what panel has done and the charter that outlines what panel does.
- Voting results: Panel would like to meet with the consultant this spring, in person. Will start email introductions to start the process. Panel to provide feedback on stakeholder interviews. Panel will have opportunity to advise on report development, review report, and advise on additional work that needs to be done.
- Melanie Lawson: Procurement scope of work sent to bid; deadline is first week of March. Will be community assessment of current business layout and potential barriers of doing business with South32. Working with Angie who is managing the county's small business/nonprofit financial asset building program with US Treasury funds. This will help leverage resources for small business development opportunities to partner with South32.

1:55

Scope of Work with Tod Newman – machine learning/natural language processing for Good Neighbor Agreements

- See Appendix C.
- Angie discussed why natural language processing is important to our work: explaining community networks, summarizing large amounts of text and key findings, including in the GNA literature. Recommendation for today's vote: Set aside \$5,000 in your technical assistance budget for his work.
- Marcelino Varona: Thought Ty's graduate student was going to review literature with his scope of work. Now we have someone else who has more experience?
- Ty Ferre: David is a master's student, does not have specific experience in GNAs. David is doing the manual labor of getting things together and consolidating them. David brings unique hydrologic point of view. Tod's work is like a tool, like a specialized search engine to look within documents.
- Ruth Ann LeFebvre: What is the legal standing do GNAs have?
- Angie Donelson: We don't know, that is part of the research. There are a range of approaches: some do not deal with mines, and we will be reviewing them.

- Ruth Ann LeFebvre: What is the process in doing this GNA review of the literature?
- Angie Donelson: David will do a series of report-backs to me for Ty, as we get closer to what the panel needs. Ty will be looking at it from water related issues and uncertainty. I'm looking at from how actionable is it for the panel to proceed: can it answer our questions? We'll have opportunities to present to panel as this work progresses.
- Ruth Ann LeFebvre: Is there a timeline for it?
- Angie Donelson: David's work will wrap up in May/June. It should would give us enough information to know how to start framing a GNA.
- Motion to approve Tod's scope of work approved, no objections.

2:03

Wrap Up and Looking Ahead: March 16 meeting

- Angie Donelson: We talked a little about affordable housing in the past. County was awarded funding for technical assistance through a US Department of Housing and Urban Development intermediary organization. Will have consultant work with us on affordable housing strategy for next year. I submitted the request on behalf of the county, and the work was paid for by South32.
- Next time, Robin Breault will be back to share findings on assessment of workforce development; Ben Lomeli, local consultant/hydrologist to talk about local hydrology.

Appendix A

INFORMATION for the Santa Cruz County Advisory Panel on Hermosa Project Presented by Panelist Carolyn Shafer as a PARA Board Member February 16, 2022

These are three sources for information relative to water issues in the Sonoita Creek Watershed that I recommend:

- The [Town of Patagonia “Sonoita Creek Flood & Flow Committee”](#) (“F&F”) which conducts (currently via Zoom) monthly public meetings the second Thursday of each month at 10 a.m.
- [Friends of Sonoita Creek](#) (“FOSC”)
- [Patagonia Area Resource Alliance](#) (“PARA”)

UPDATE: PARAs Appeal of Aquifer Protection Permit (APP) Issued by AZ Dept of Environmental Quality to South32

A hearing on the Appeal was held before Office of Administrative Hearing Judge Thomas Shedden beginning on January 10, 2022 and ending on January 21, 2022. All parties have been asked by the Judge to file written Closing Arguments by March 7. The Judge then anticipates he will take about two months to review the matter before making his recommendation to the AZ Water Quality Appeals Board which will then render its final decision.

PARA’s requests for modification of the permit are reasonable and scientifically based:

- Points of Compliance (*key location/s where levels of contamination or exposure can be screened*) be constructed before any mine dewatering activity.
- A system of early warning Points of Compliance with minimum monthly monitoring.
- Baseline data (*collection of prior information*) must be collected for a minimum of one full year before any large discharge.
- Background data on stream sediments in lower Harshaw Creek must be collected in advance of any significant discharge.
- All compliance monitoring and background data collected must be released to the public.
- A complete hydrologic study (*study of water*) must be conducted on the effect of the Hermosa Mine discharge to Harshaw Creek on downstream drinking water aquifers.

UPDATE: South32’s Pre-Feasibility Study (PFS)

The PFS was delayed multiple times for more than a year. On January 17, 2022, South32 released a 40 page summary (actually only 17 pages of text with 23 pages of tables, figures, etc to support the text). South32 representatives have told PARA that the full PFS is actually

Appendix A

thousands of pages long. There is very little actual information contained in the released summary.

- The PFS is about the Taylor Deposit, but also mentions three other deposits of interest.
- The preferred mine design is dual shaft access and open stoping (process of extracting the mineral from an underground mine leaving behind an open space known as a stope).
- The decision to proceed to actual production is anticipated mid-2023.
- Contract to construct of Water Treatment Plant 2 is forecast for summer of 2023 (Q4 FY23).
- Development of the main shaft is forecast to begin in South32's Fiscal Year 2024 (July 2023 - June 2024).
- First production is anticipated in South32's Fiscal Year 2027 (July 2026 - June 2027) with full production forecast for South32's Fiscal Year 2030 (July 2029 - June 2030).

[February 2012 Patagonia Regional Times Newspaper](#)

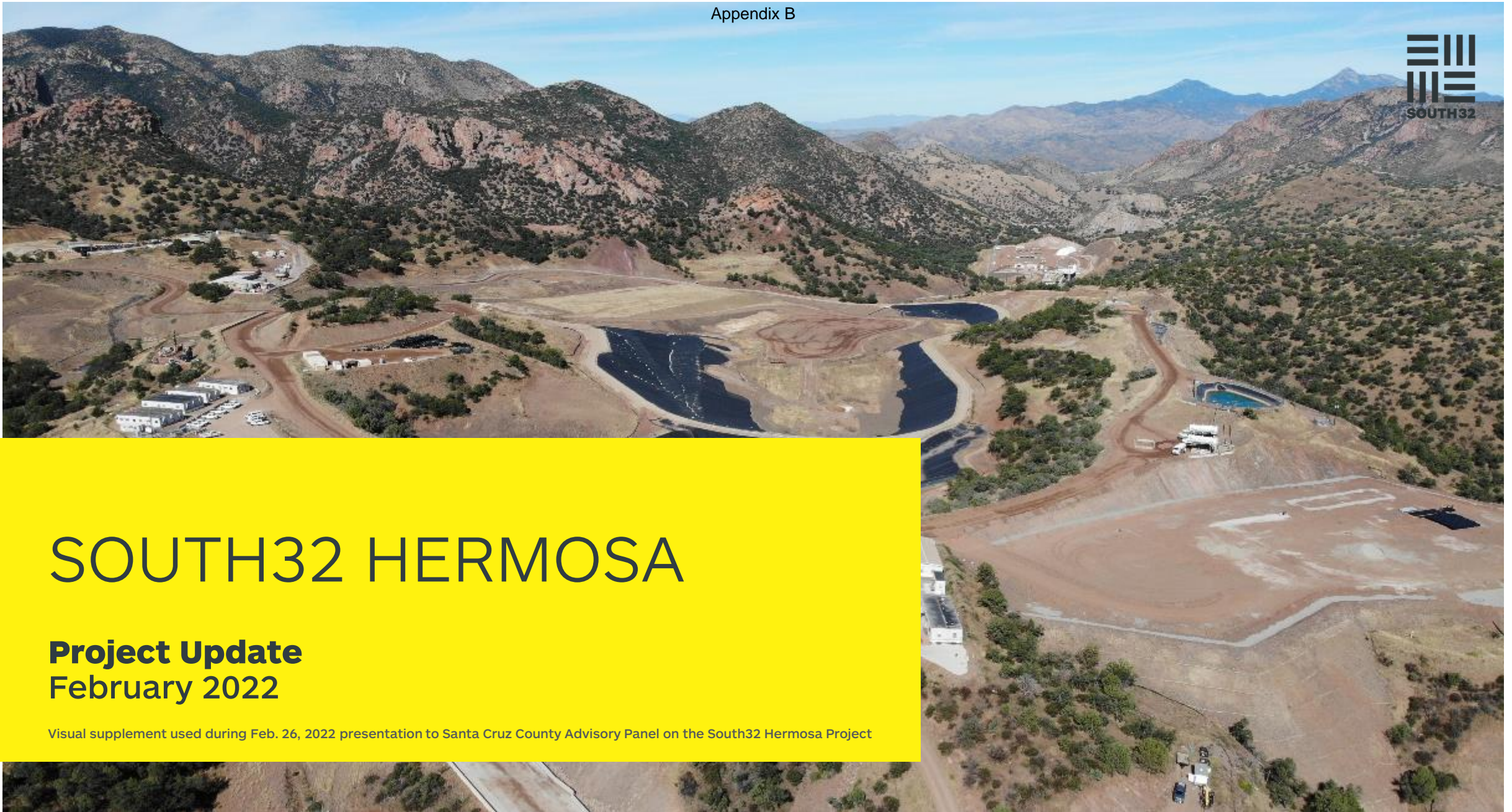
Page 1	Pat Risner Interview
Page 2	PRT Editorial "Accountability Requires Transparency"
Page 7	"What Is South32 Hiding?" Guest Opinion by local residents
Page 18	PROTECTING OUR MOUNTAINS and OUR WATER by PARA



SOUTH32 HERMOSA

Project Update
February 2022

Visual supplement used during Feb. 26, 2022 presentation to Santa Cruz County Advisory Panel on the South32 Hermosa Project



THE PREFEASIBILITY STUDY

Appendix B



Purpose –

- Provide information to an internal review board and senior leaders
- Determine whether a project can be completed in a technically sound and economically viable way.
- NOT an analysis of environment impacts (like a NEPA EIS document)

Ways we will continue to share information –

- Water information (Dr. Ty Ferre)
- Employment information for workforce development planning
- Presentations / open house events to answer questions & gather feedback
- Mine Plan of Operations will be public

KEY TAKEAWAYS FROM TODAY ^{Appendix B}



1. Recap project context – minerals at Hermosa and why they are important
2. PFS results – timeline for development, employment projections, next steps
3. Routes – short-term and long-term routes, next steps with Santa Cruz County, public process for each

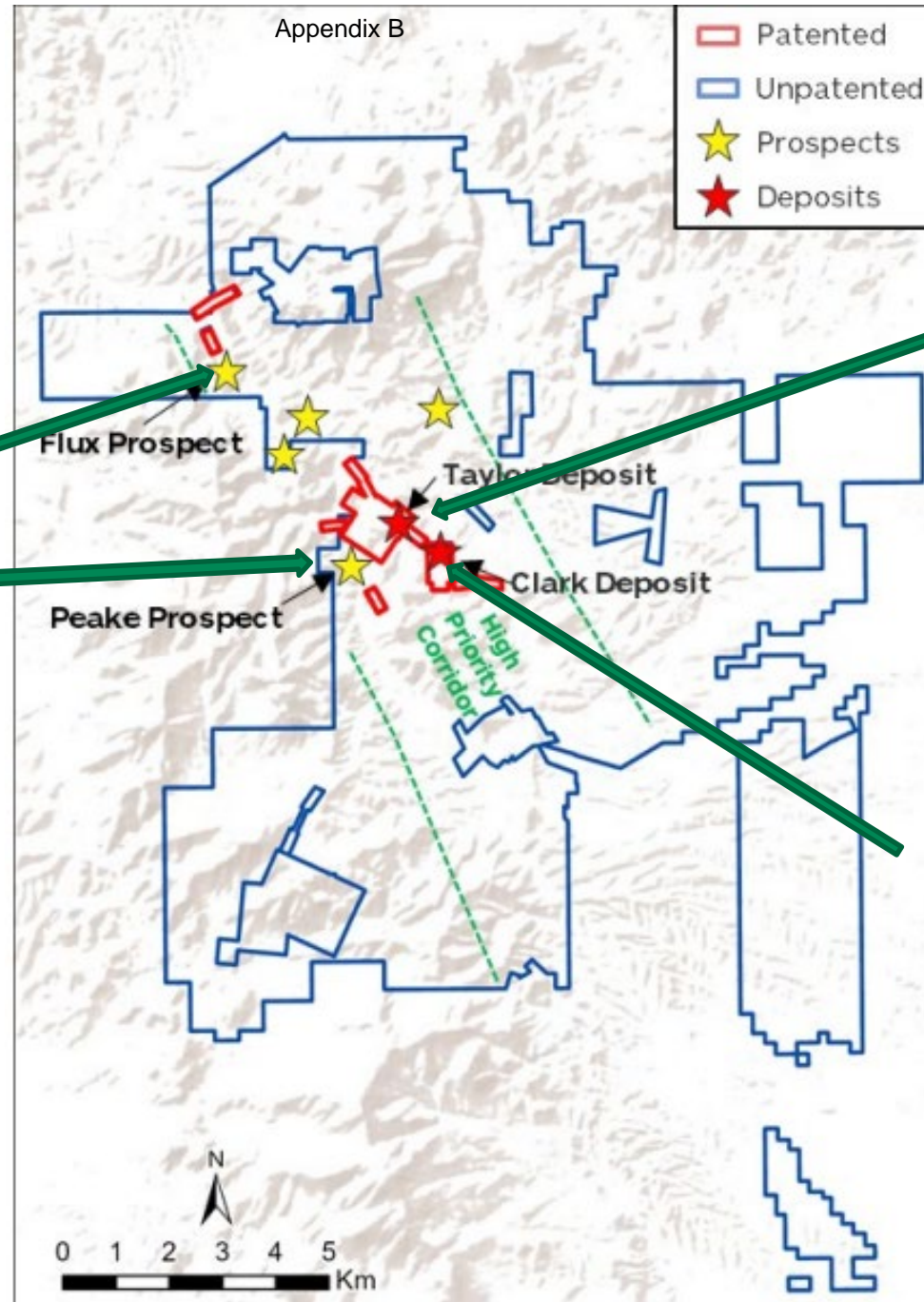
HERMOSA PROJECT CONTEXT

Hermosa comprised of three components:

3. Exploration land package

- Flux prospect
- Copper present in new Peake resource

Taylor is one of the largest undeveloped zinc-lead resources in the world, and the largest in America



1. Taylor: High-grade zinc-lead-silver deposit

- Focus of PFS just completed and initial priority

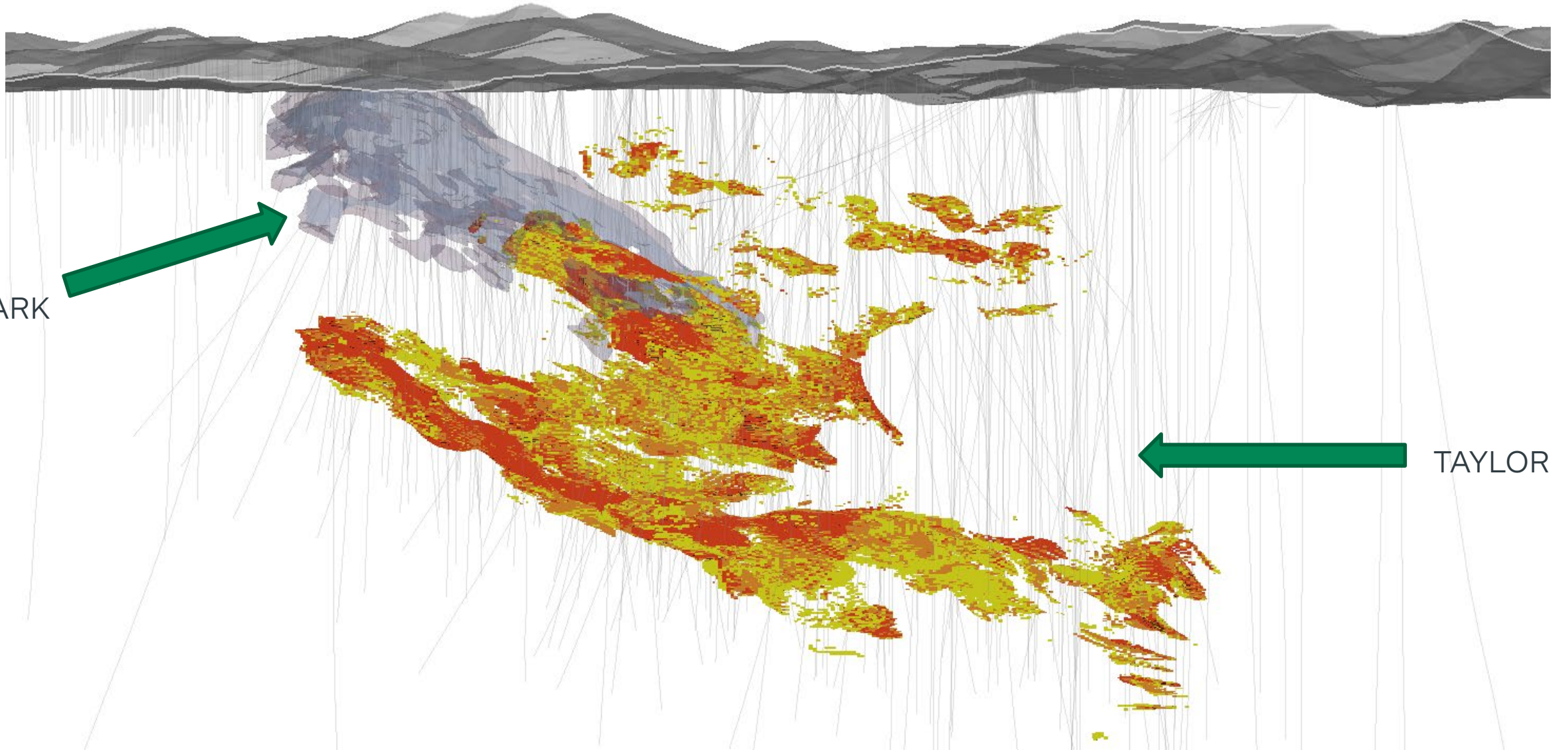
2. Clark: Manganese-zinc-silver deposit

Produce battery grade Manganese

Reviewing integrated development with Taylor
Accelerating study work

TAYLOR AND CLARK RESOURCES

Appendix B



CLARK

TAYLOR

KEY POINTS OF DISTINCTION

Appendix B



Why **Hermosa**

Our minerals are essential to address climate change

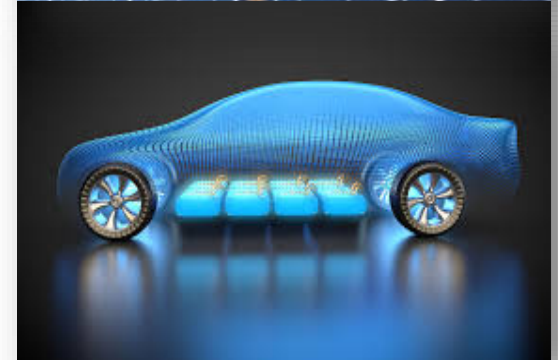
- **Zinc:** Battery storage for renewable energy, galvanizing wind turbines, electric vehicles and any exterior steel infrastructure
- **Lead:** Electric vehicle batteries, battery storage for renewable energy
- **Silver:** Essential coating on every photo-voltaic solar panel
- **Manganese:** critical mineral for electric vehicle batteries; steel; US military use
- Recycling these metals is technically difficult and significant increases in recycling rates would have minimal impact on supply shortfalls to meet climate goals.

America is highly reliant on foreign sources for these minerals

- Few American jobs in the mining supply chain for these minerals
- America currently producing only 5-6% of global supply of lead and zinc
- No current domestic production of manganese

Socioeconomic transformation for Santa Cruz County

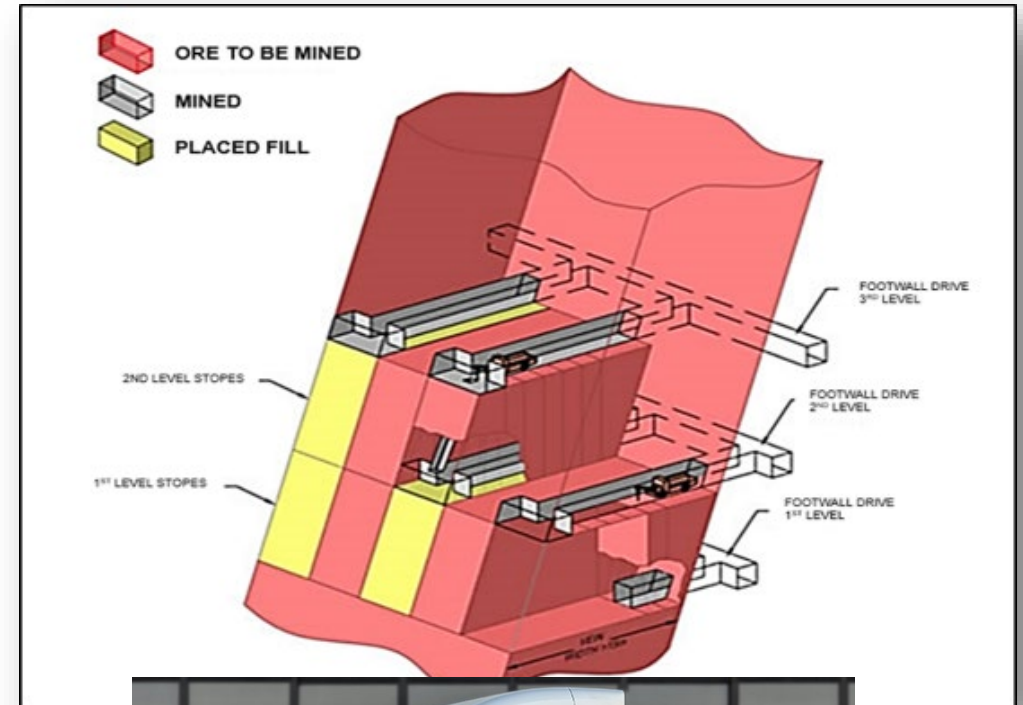
- Labor income per mining job is more than double all Arizona workers
- Significant increase to county's \$14m property tax base – scale in PFS confirms
- Local employment and supplier plans



PREFEASIBILITY STUDY UPDATE – TAYLOR

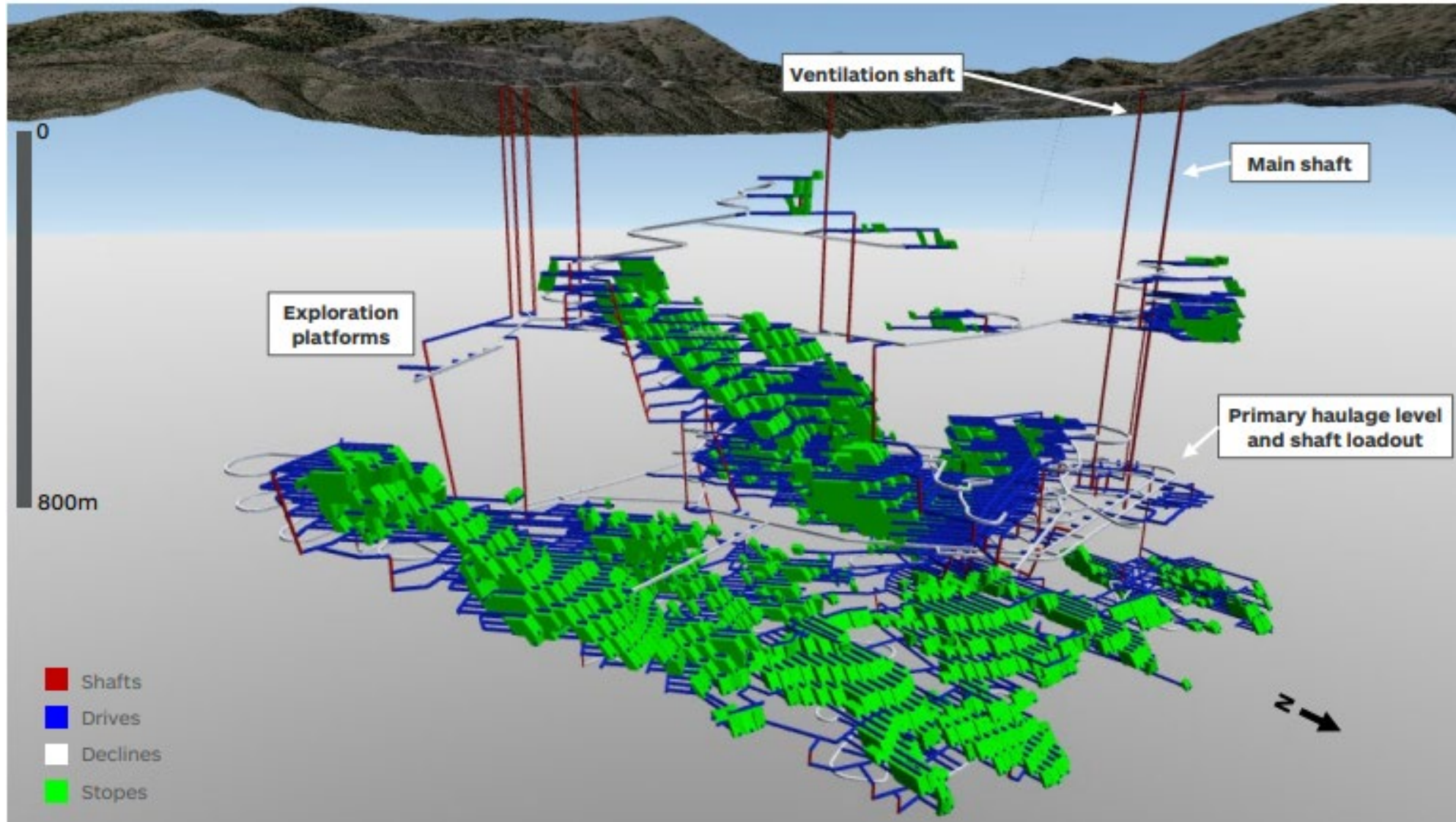
Appendix B

- Highly productive, multi-decade operation
 - Growing resource and mine life
 - Largest and most productive mine of its type in the world
 - Scale confirms economic potential for Santa Cruz County
- Dual-shaft underground development
 - No open-pit mining
 - Minimal surface disturbance due to backfill underground
- Carbon-neutral operation using automation & technology
 - Electric vehicles underground
 - Electric semi-trucks for over-the-road transport
 - Potential to fully power with renewable energy
- Market
 - Options for zinc/lead smelters in North America
 - Manganese sold to domestic US battery markets
- \$1.7 billion additional capital investment to construct the operation



TAYLOR UNDERGROUND MINE

Appendix B



SITE LAYOUT AND INFRASTRUCTURE

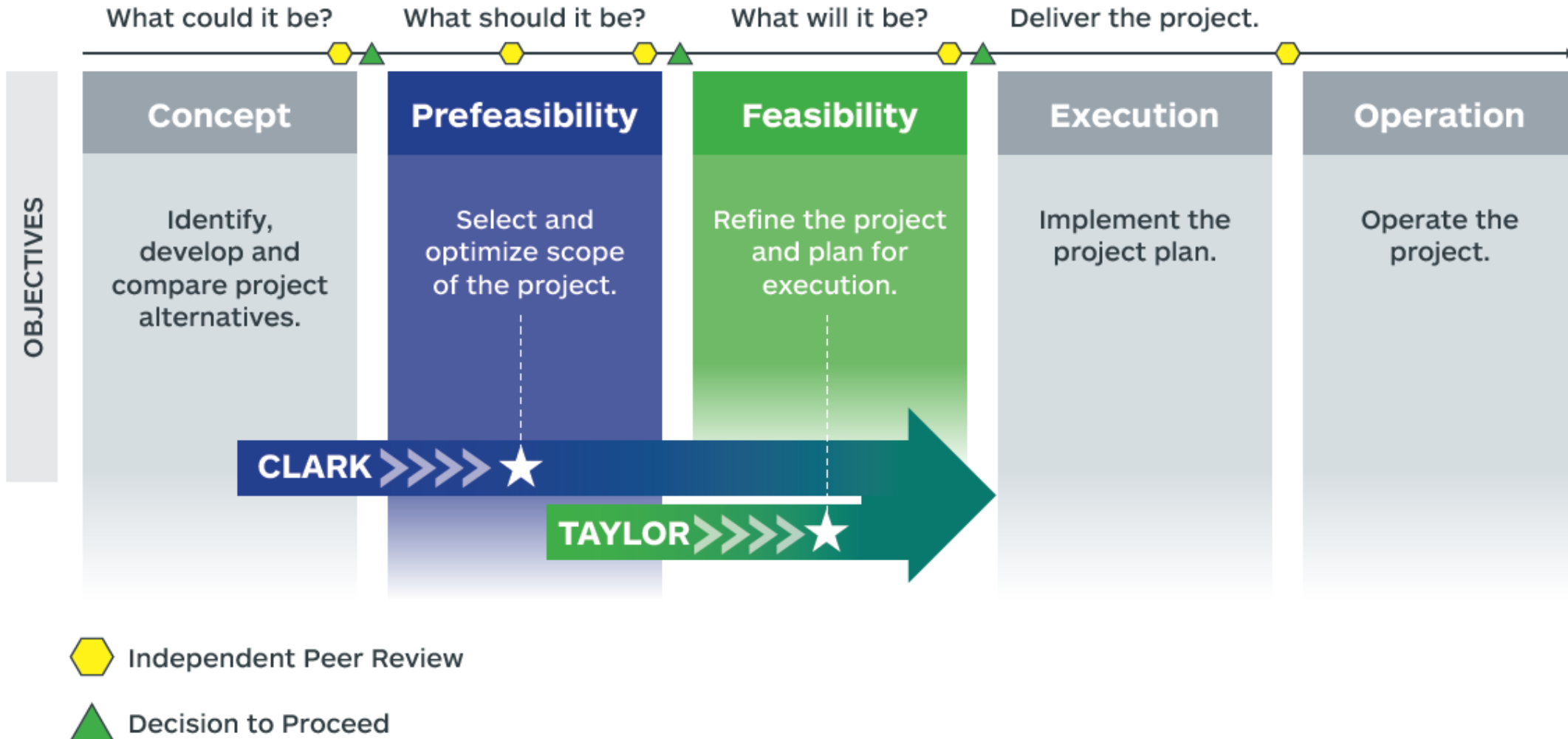
Taylor site map



- Contain all initial infrastructure to private lands that were previously disturbed.
- Minimal surface footprint for tailings due to state-of-the-art facility built for remediation program.
- Underground illustrative photo (bottom)
- Federal permitting required for longer term tailings storage and alternate road access.

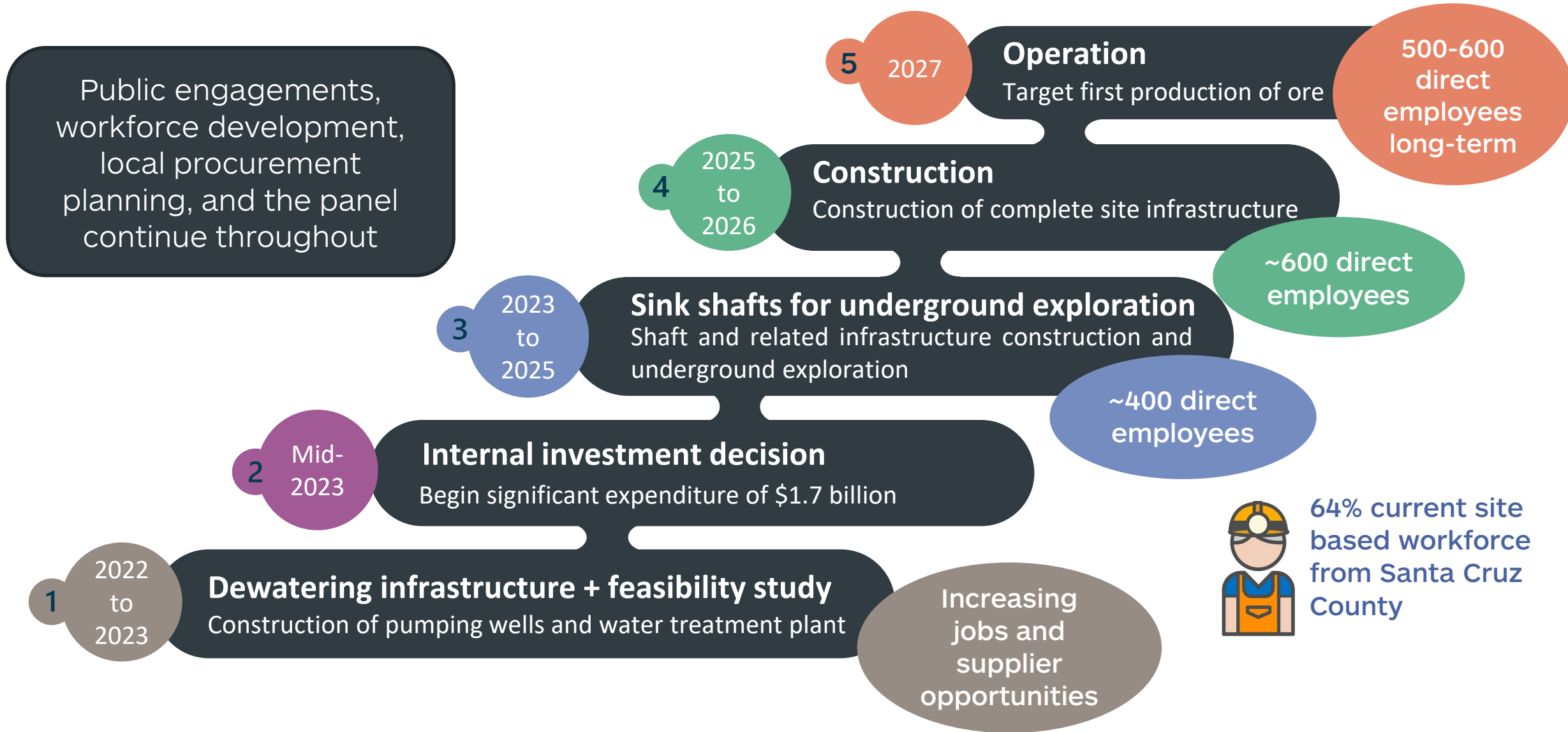


WHERE WE ARE NOW



WHAT DOES THIS MEAN? (NEXT STEPS)

Appendix B



CONCENTRATE TRAFFIC

- Initially less than 30 trucks per day (about 1 to 2 trucks per hour)
- After first 3 years increase to 65 trucks per day average and peaking at 80 trucks per day (about 3 to 4 trucks per hour)
- “Trucks” refers to loaded concentrate trucks leaving Hermosa.

Transport logistics



POTENTIAL COMMUNITY PARTICIPATION PROCESS –

Appendix B



3 Process for panel and neighbors: ideas for post-S32 use (public uses and amenities) – inclusion in GNA?

4 County approvals for design of amenities/uses TBD

5 Flux Canyon route NEPA process (Longer term)

developed by the international association for public participation

earliest
June

	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.

1 Panel: temporary route selection (neighbors have vetted pre-panel)

FEB 16

2 County temp. private easement requested regular BOS session



Appendix C
Proposed Scope of Work for 2022
Santa Cruz County Advisory Panel on the South32 Hermosa Project

Tod Newman, Santa Cruz River Analytics

<https://scr-analytics.com/>

<http://todnewman.com/>

Data Analytics can improve the speed, accuracy and analytical sophistication of the work we will be doing in 2022 for the panel. It will enhance our review of the peer reviewed and grey literature of Good Neighbor Agreements (GNAs). It will also be useful for continuing to discover themes and patterns in unstructured network data, transcripts, and documents review work for the panel.

Tod Newman has 20 years of experience in applying advanced data analytics to unique problems as an Engineering Fellow at Raytheon as well as in his own private data analytics practice. He has coached around 800 students (ranging from high school to professional) in training programs for applied artificial intelligence and machine learning. He currently leads the corporate artificial intelligence technology council for Raytheon. His current, favorite AI techniques involve exposing hidden structure in text documents using Natural Language Processing.

1. Objectives of the Agreement/Deliverables

Task 1: Support Dr. Ty Ferre/David Morales' review of grey/peer-reviewed literature on Good Neighbor Agreements. Develop artificial intelligence (AI) crawler and analytic technique to identify novel, relevant articles missed in the manual search.

Task 2: Provide natural language processing and analytic support for documents review and network analytics supporting panelist activities in 2022.

Deliverable: Produce summaries to be shared in panelist PowerPoint presentations, and in supporting Dr. Ty Ferre and David Morales in their literature review.

2. Administration

Up to \$5,000 in 2022. Billed hourly, at a rate of \$130/hour.