South32 Offices, Nogales
South32 Community Advisory Panel (CAP) Meeting
January 7th, 2026

Schedule:

3:30-3:45- CAP meeting rules, Review meeting notes
3:45 - 4:45- Community Presentation- Antimony Discharge
4:45 - 5:00- South32 Project Update
5:00 - 5:30- Review of Roadmap and Community Thoughts

Attendance:

- Meeting Facilitator (Acorn International): Ranay Guifarro
- South32 Hermosa Advisory Panel Members Present**:** Linda Shore, Daniel Gutierrez, Gerry Isaac, Francisco Padilla, Lou Jeong, Guillermo Valencia, George Wise, Fritz Sawyer, Trina De La Ossa, Jonathan Lutz, and Michael Young
- South32 Hermosa Advisory Panel Members Absent: Maureen De La Ossa and Guillermo Valencia
- South32: Troy Kimball, Sandra Moraga, Simon Charter, Denise Bowdon, Dr. Tomas Goode, and Pat Risner

Minutes

3:30 – Introductions

Meeting is called to order.

3:35 – Community Presentation- Antimony Discharge

Attached you will find the presentation from Chris Gardner

Water Quality & Geochemistry Discussion

- Antimony is treated differently than arsenic.
- Higher discharge rates reduce plant efficiency.
- Antimony levels have been increasing in a drinking water well.
- A community member reported iron-staining water in 2021.
- The red coloration observed is iron oxide.

Questions & Responses

Q: What explains the decrease in iron in a community member's well water?
A: Increased discharge is diluting iron concentrations.
Q: Can water be tested as it naturally occurs?
A: Yes—well testing can provide this information.

Contamination & Source Insights

- Existing contamination could be mobilized or flushed out by South32 activities, though data is insufficient to confirm.
- Some contamination predates South32's operations.

- Community member's well results suggest many issues are localized specifically to her well.
- Rain events can change geochemistry.
- Surface water samples collected near Outfall 002 align closely with what South32 reports to ADEQ.
- Concern exists about nearby historic mines that could negatively impact water quality.

Data Gaps & Monitoring

- Lack of Forest Service data limits broader understanding.
- South32 wells on the draft EIS do not overlap with the areas of highest concern regarding water quality and quantity.
- Greater evaluation of localized contamination is recommended due to potential mobilization.

4:40 – South32 Presentation – Project Update w/Pat Risner

Construction & Project Timeline

- Peak construction expected mid-year; increased activity from South32 contractors.
- Biological study by the Forest Service is nearly finalized but delayed by 28 days.
- Ventilation shaft reaches ~1,480 ft (3680 level); horizontal development of first level underway.
- Early-stage work on the process plant; much of the assembly is occurring offsite (modular construction) to reduce traffic.
- Mill shell has arrived on site.
- Remote Operating Center groundbreaking expected in February.
- CPBA will release updates on process improvements soon.

Local Workforce & Procurement

- A new local workforce training program is forthcoming, similar to the previous session.
- Local procurement is increasing month-over-month.
- Local hiring stands at approximately 50%.
- Successful recruitment of Santa Cruz County high school graduates who studied elsewhere and returned for professional roles.
- No serious injuries on site in the last 9 months.

Site Logistics & Property Work

- Some work will occur on private property for power line development.

Regulatory & Market Context

- The new federal administration has not issued new grants.
- Manganese deposit development depends on the growth of U.S. battery plants; market demand exists.
- Data centers drive high zinc demand, indirectly affecting project economics

5:15– CAP Items

- Reviewed the 2026 Roadmap

- CAP expressed interest in creating a brochure or 1-pager to be able to explain the CAP accurately.
    - Ranay will be sending this out.

Community Advisory Panel
on the South 32 Hermosa Project

Monthly Meeting

South32 Hermosa Project

January 7, 2026

Acorn International, LLC
BOS | IAH | Worldwide

Acorn INTERNATIONAL
We help good companies be good neighbors

Meeting Agenda

3:30 - 3:40- CAP meeting rules, Review Meeting Notes

3:40 – 4:30- Presentation – Chris Gardner

4:30 – 5:00- South32 Project Update – Sandra, Troy, and Simon

5:00 – 5:30- Review of 2026 Roadmap, CAP Overview, and Community Thoughts

Meeting Rules

Section 6 – Meeting Arrangements

“Meetings will be open to the public, but those who are not members of the CAP will be observers only (not active participants or speakers in the meetings.) CAP members may decide (by consensus) to make any portion of a meeting, or a full meeting, closed to the public. 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.”

Chris Gardner- Presentation

South32 Project Update

SANTA CRUZ COUNTY HERMOSA PROJECT ADVISORY PANEL

ROADMAP 2025

EMPOWER

Participate in community meetings to connect interested groups with the panel and bring forward their questions to facilitate outcomes desired by the panel

INVOLVE

Identify alternatives through participating in meetings, doing homework and own research, responding to surveys, participating in temporary workgroups

COLLABORATE

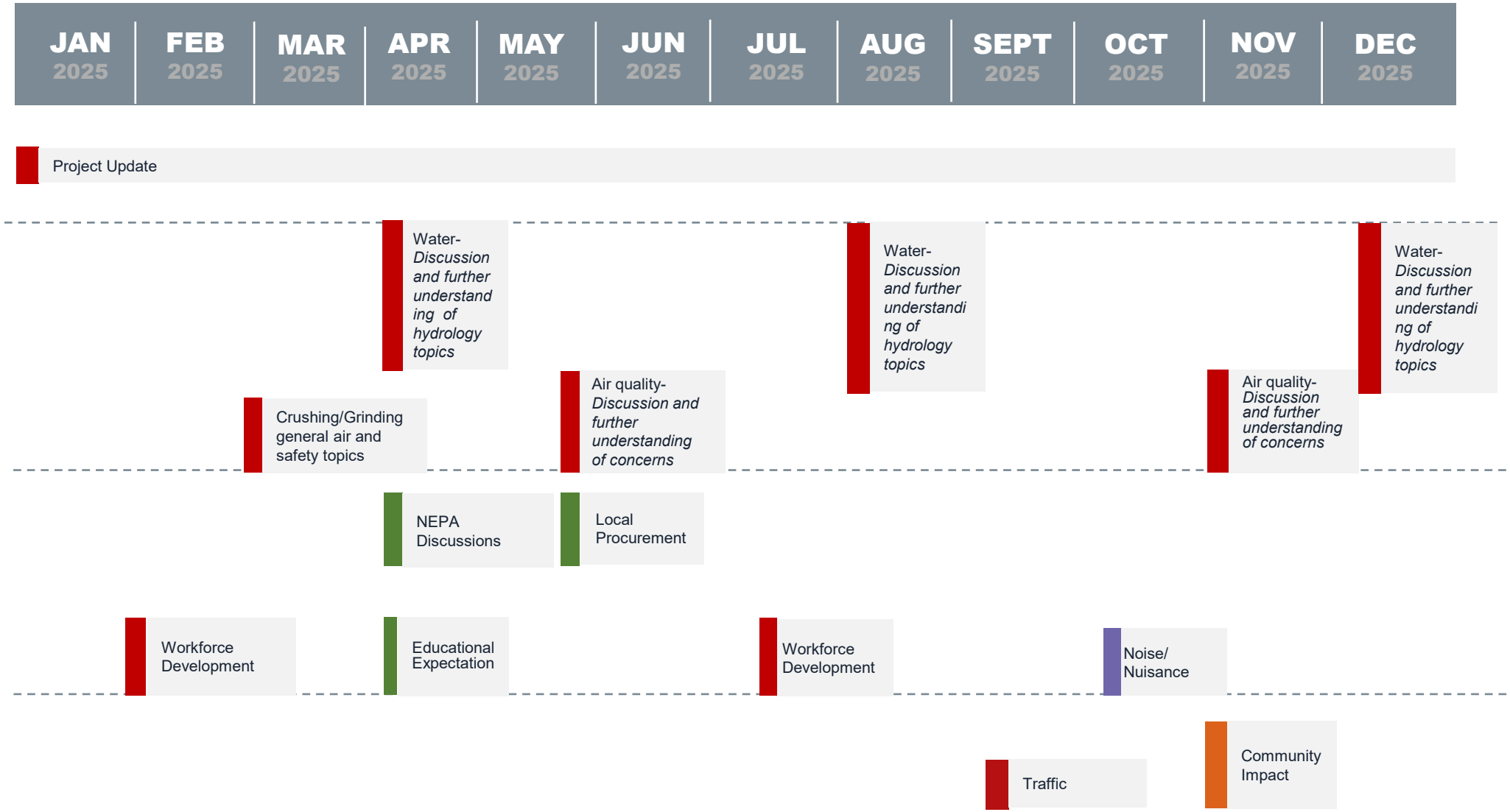
Participate in developing solutions and monitoring for accountability

CONSULT

Provide South32 feedback as to alternatives course of action during meetings, homework, surveys

INFORM

Share information through panelist



Identifying the opportunities in which CAP can support the community and South32 in each of these topics will be ongoing. This is the 'Involve' aspect of this Roadmap.

SANTA CRUZ COUNTY HERMOSA PROJECT ADVISORY PANEL

ROADMAP UPDATE- 2026

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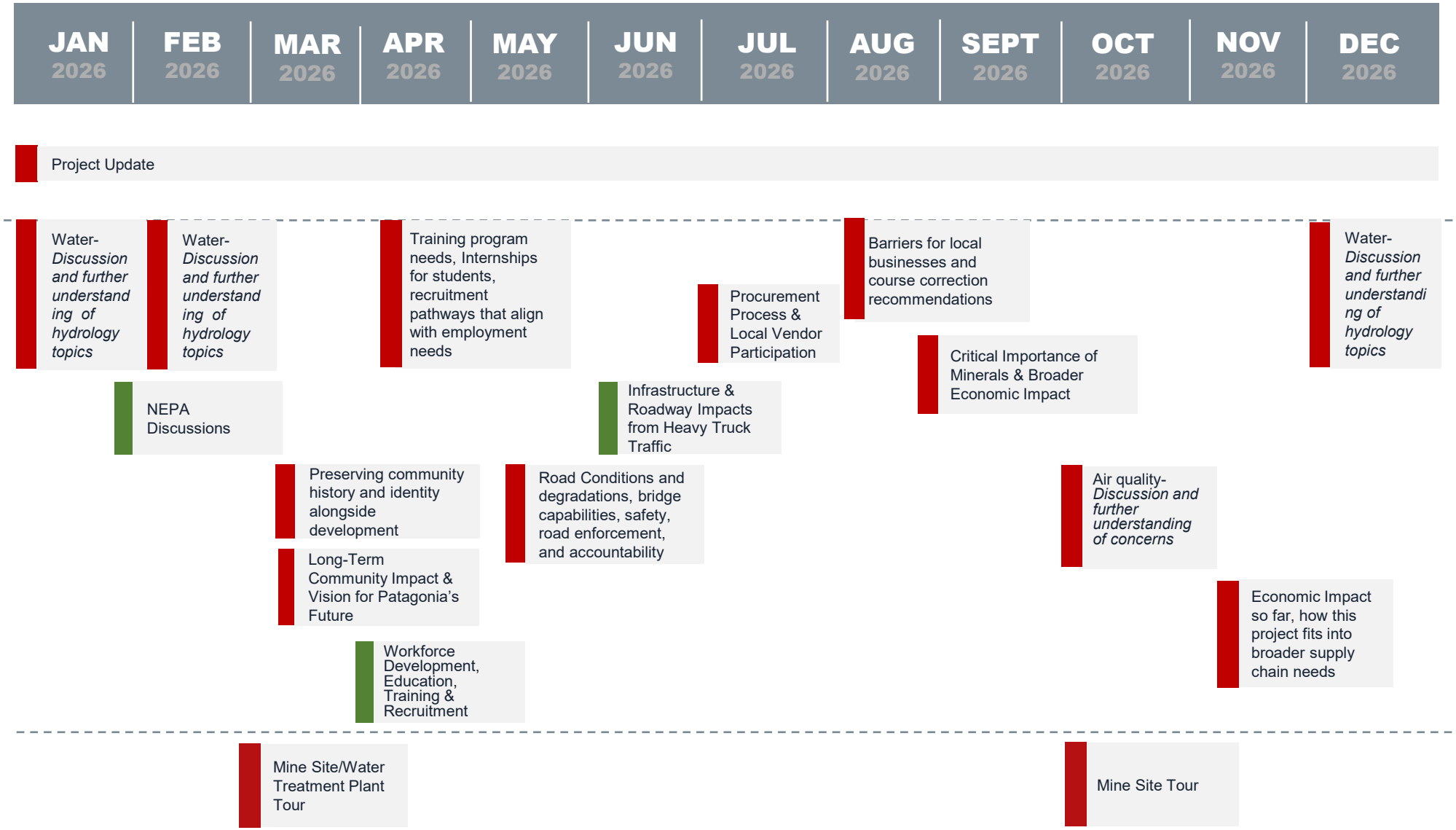

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CAP

COMMUNITY ADVISORY PANEL (CAP)

Working Together for the Future of Santa Cruz County

Why This Matters

The Community Advisory Panel (CAP) makes sure that local voices influence decisions about the South32 Hermosa Project. Our goal is to protect what makes Santa Cruz County unique, our environment, our community, and our quality of life, while making sure that development decisions align with community values.

What Is the Hermosa Project?

The Hermosa Project is an upcoming underground mining and development initiative situated about six miles southeast of Patagonia. South32is developing the site and since the project will impact jobs, infrastructure, natural resources, and long-term planning, community input is crucial at every stage.

Who We Are

The CAP is an independent, multi-interest group made up of community members from across Santa Cruz County. Members bring diverse backgrounds, strong networks, and a shared commitment to representing local priorities.

- Founded: 2021
- Members: Up to 15 local residents
- Structure: Monthly meetings, external experts, one-year minimum commitment

Our Mission

To make sure community concerns, questions, and values are heard, understood, and reflected in South32's planning for the Hermosa Project.

What We Do

The Community Advisory Panel acts as a link between residents and South32 by presenting community questions and concerns and providing guidance on important topics, including workforce development, environmental stewardship and monitoring, local health and safety, community infrastructure and quality of life, and economic benefits and shared value. The panel reviews information from technical experts, sets goals that align with both community interests and project needs, and offers honest, independent feedback on issues that matter to residents.

Our Core Values

Our values guide how we listen, communicate, and make recommendations.

Collaboration | Integrity | Inclusivity | Respect

Our Impact So Far

- Identified key community priorities and shared them with South32
- Hosted expert presentations on environmental studies, groundwater, and safety
- Supported discussions on local workforce and training needs
- Helped elevate concerns about traffic, noise, and emergency preparedness
- Provided community-informed recommendations for early project planning

How You Can Engage

Your voice matters. Community participation strengthens our work.

- ✓ Share questions, concerns, or ideas
- ✓ Request presentations for community groups or neighborhood meetings
- ✓ Stay informed through meeting summaries and project updates

Contact Us
Website:
Social Media:

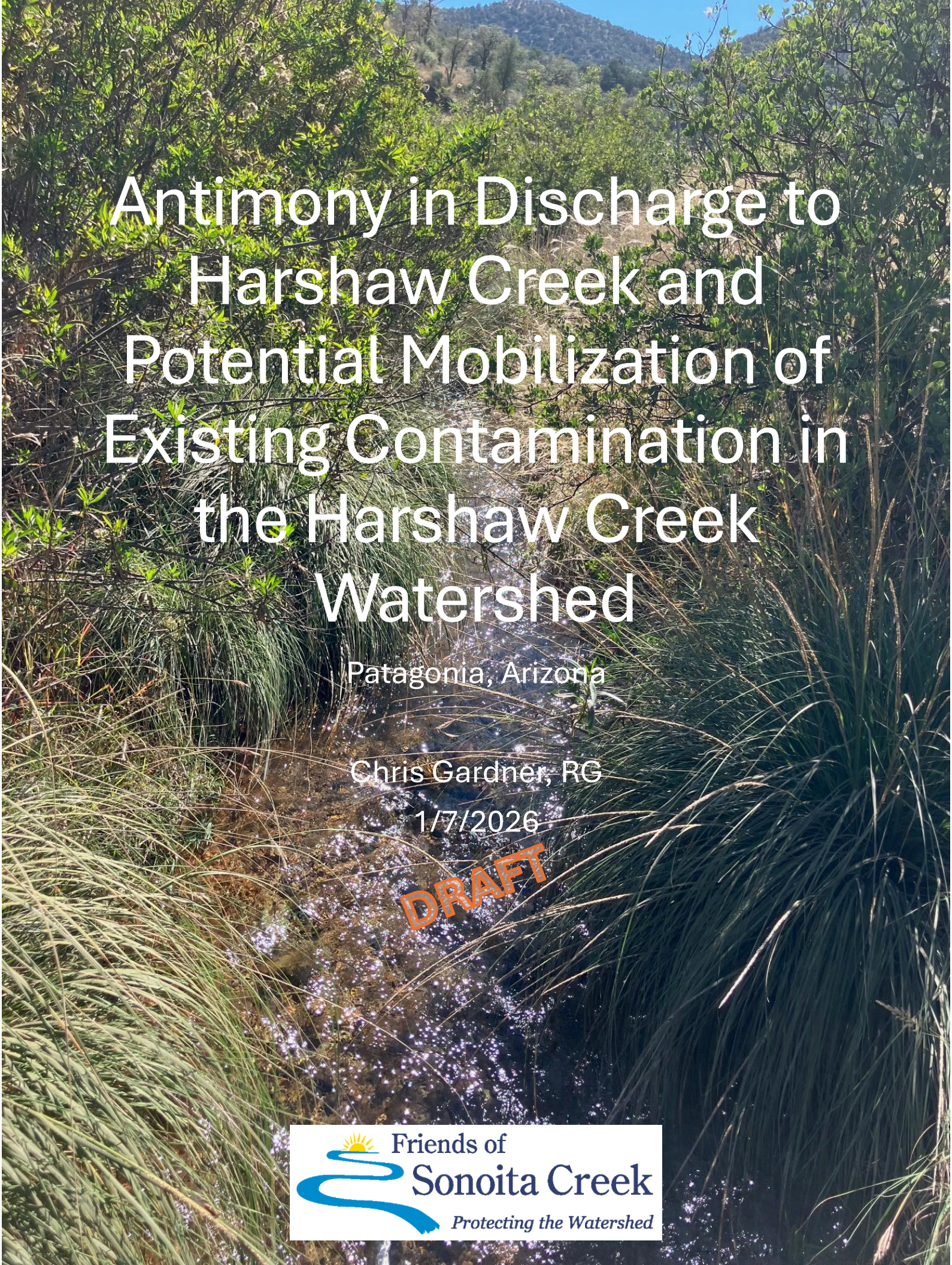
Local Input Shapes Local Outcomes.
Together, we can ensure that development decisions reflect what our community values most.

Community Thoughts

- What have you heard from the community?
- What types of people have you talked to?

Meetings

Meeting	Location	Topic
May 28th	Nogales	Procurement
July 9th	Patagonia	Emergency Services
August 6th	Nogales	Dr. Ferre/Water
September 3rd	Patagonia	Skylie Estep
October 1st	Patagonia	Tour
November 5th	Nogales	Community Investment
December 3rd	Nogales	2026 Recap
January 7th	Patagonia	Community Presentation
February 4th	Nogales	



Antimony in Discharge to Harshaw Creek and Potential Mobilization of Existing Contamination in the Harshaw Creek Watershed

Patagonia, Arizona

Chris Gardner, RG

1/7/2026

DRAFT

Friends of Sonoita Creek
Protecting the Watershed

December 17, 2025

Santa Cruz County Supervisors,

Antimony in the discharge from South32 to Harshaw Creek is now present in drinking water along the creek and appears to exceed the Drinking Water Standard. Please see the chart on the other side of this page. I'm concerned that the technology for industrial treatment of high concentrations of antimony in water to safe levels may not exist.

When the discharge rate to Harshaw Creek increased from about 1.0 to 2.5 million gallons per day (referred to as MGD) concentrations of antimony exceeded permit alert levels in September 2024. South32 attributed this exceedance to one bad well, which they shut down. Discharge rates decreased and concentrations of antimony in the discharge decreased until a sudden increase in June 2025 after an increase in the discharge rate from about 1.4 to 1.7 MGD. Once the June 30 sample result was available to the public, I asked the ADEQ to take a look into this issue in mid-August. About a month later, the ADEQ got back to me and described a loophole in the permit which prevented them from looking further into the issue, even though a sample result submitted to them had exceeded the permit Alert Level.

Based on an October 31st sample result and an increase in discharge rate from about 1.2 to 1.4 MGD, I asked the ADEQ earlier this month to check what South32 reported. The ADEQ realized that a different result for a sample collected October 3rd, was misreported by South32 and actually exceeded the state's permit discharge limit.

My concern is that the water associated with that one bad well is now being captured by the cone of depression and high concentrations of antimony will persist or get worse as the mine discharges more water and goes deeper. I'm afraid the ADEQ is not capable of addressing this issue and South32 will continue discharging contamination using a social license from the community to pollute such as the current phased approach to the Community Benefits and Protection Agreement where impacted communities may never realize protections.

I ask for an immediate Couty Board of Supervisors study session including a presentation from South32 and the ADEQ on the progress of studies and investigations regarding the concentration of antimony in the discharge to Harshaw Creek.

I ask that the Community Benefits and Protection Agreement be one agreement that includes protections, not a phased approach starting with benefits only.

The final Environmental Impact Statement will be available February 6th. To help better understand what protections need to be in the agreement, I can contribute to a study session on the Environmental Impact Statement findings and deficiencies to the Board of Supervisors in April or May.

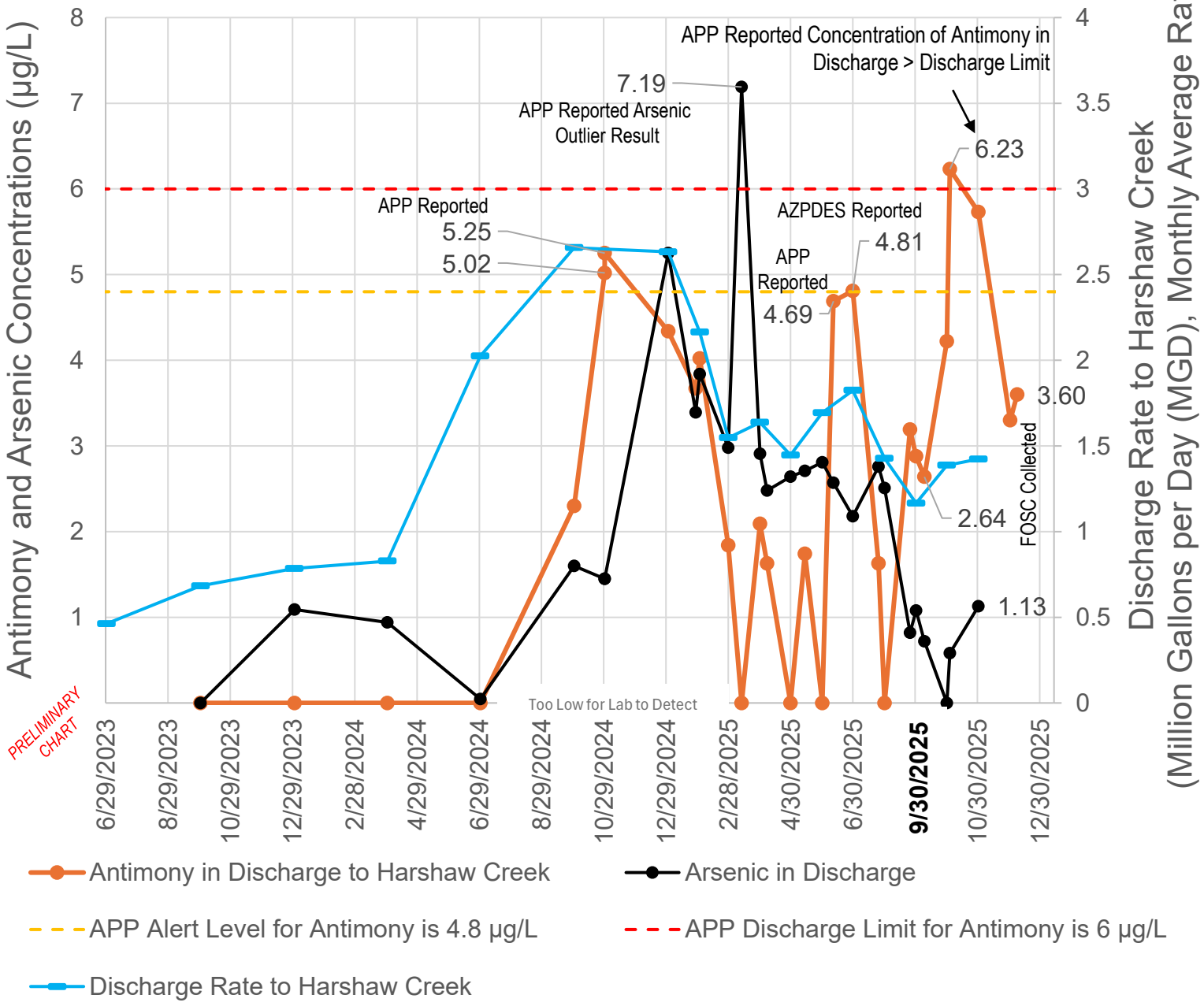
Please feel free to contact me at [redacted]

Chris Gardner

Hermosa Mine APP & AZPDES Reported Heavy Metals in Discharge to Harshaw Creek and Rate

PRELIMINARY STATEMENT

Concentrations of antimony & arsenic in 2025 generally tracked with the discharge rate until September 2025 when the discharge rate increased from ~1.2 to ~1.4 MGD; then antimony increased to above the APP Discharge Limit while arsenic remained ≤1 µg/L.



Notes:

- APP - Aquifer Protection Permit, state law to protect groundwater quality. Data available upon state Records Request.
- AZPDES - Arizona Pollution Discharge Elimination System, federal law to protect surface water quality. Data online.
- APP Discharge Limit for arsenic is 50 µg/L, Aquifer Water Quality Standard for arsenic is 10 µg/L.
- Results compiled by Chris Gardner from publicly available sources and are presented as preliminary in this chart.

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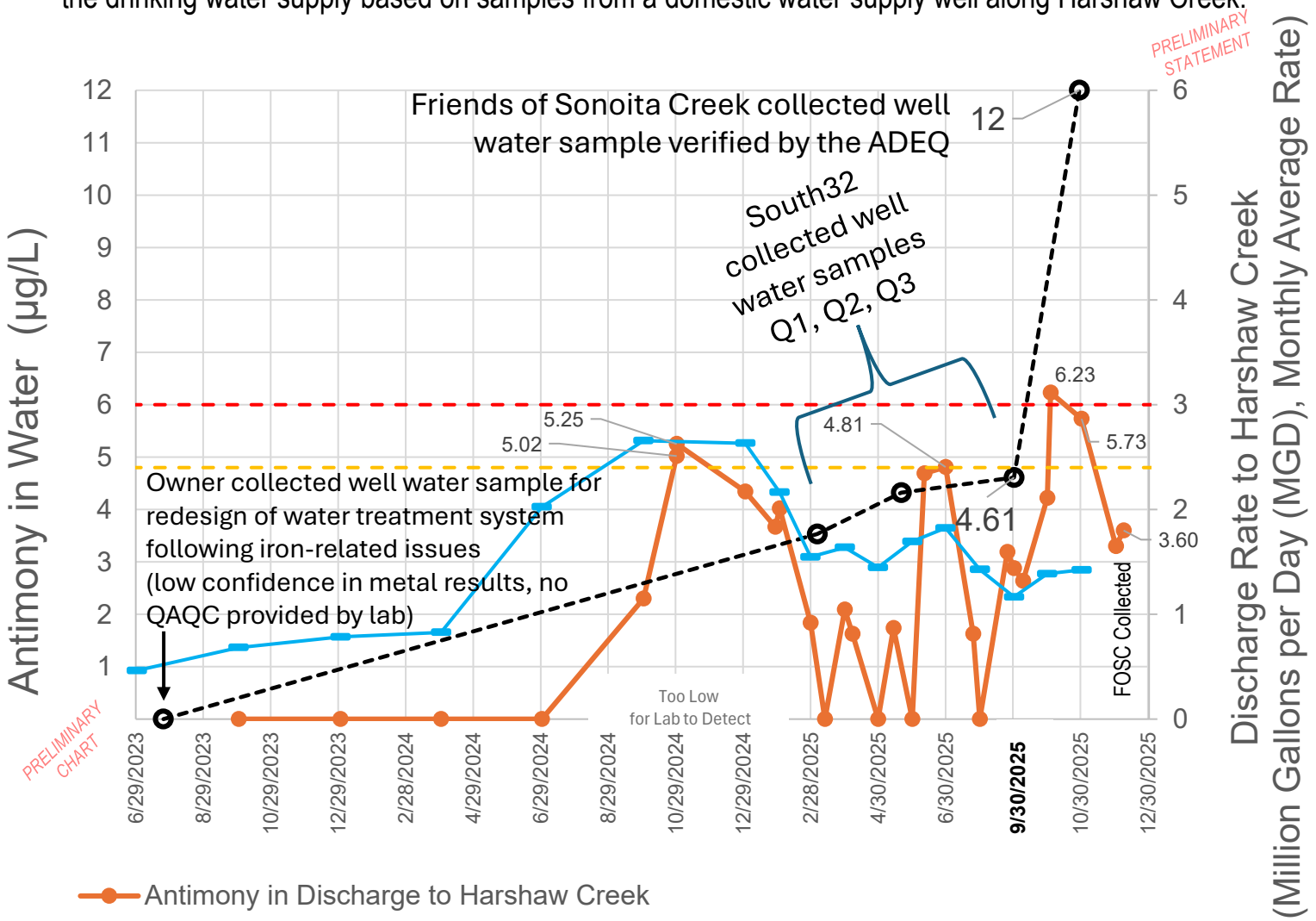
Hermosa Mine - Patagonia, Arizona
Reported Antimony in Discharge to Harshaw Creek and Impact to the Drinking Water Supply

Antimony in the 2025 discharge water from South32 to Harshaw Creek, reported to the State of Arizona by South32, generally tracked with the discharge rate until September 2025 when the discharge rate increased from ~1.2 to ~1.4 MGD; then antimony increased to above the State's Aquifer Protection Permit (APP) Discharge Limit of 6 µg/L. During this time, antimony has appeared and is increasing in the drinking water supply based on samples from a domestic water supply well along Harshaw Creek.



- Antimony in Discharge to Harshaw Creek
- Antimony in the Water Supply, from the Wethington Domestic Well along Harshaw Creek
- National Primary Drinking Water Standard/APP Discharge Limit for Antimony is 6 µg/L
- APP Alert Level for Antimony is 4.8 µg/L, Triggers 5-Day Notice to the State of Arizona
- Discharge Rate to Harshaw Creek

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	Turbidity (NTU)	Arsenic (mg/L, total)	Lead (mg/L, total)	Iron (mg/L, total)	Sulfate (mg/L)	Mangan-ese (mg/L, total)	Zinc (mg/L, total)	pH (SU)
Primary or Secondary Standard		0.010	0.015	0.3	250	0.05	5	6.5 - 8.5
Sample Date (Source)								
8/27/2009 (Turner, 2009)	0.4	0.0083	<0.0025	6.6	260	<0.02	0.049	Not Analyzed
Regular on-site pumping began in early 2016 (Garrett email, 2024). In 2017, a long-term aquifer test was conducted on South32 Hermosa private land on well WW-1. Approximately 43,000,000 gallons pumped from WW-1 were discharged to Harshaw Creek during the aquifer test (South 32, 2025)								
5/27/2019 (Schrag, 2020)	Not Analyzed	<0.040	<0.040	21.77	312	Not Analyzed	0.12	6.00
Water from the 10-day aquifer test for WW-1 was discharged to Harshaw Creek in 2019, under a de minimis discharge permit from ADEQ (Garrett email, 2024)								
8/19/2021 (Turner, 2021)	220	0.015	0.0007	46	560	1.8	0.36	Not Analyzed
December 2021, first AZPDES reported discharge. August 2023, first discharge of treated water from WTP2 to Harshaw Creek (Garrett email, 2024)								
3/6/2025 (ACZ, 2025)	1.46	0.0059	0.0001	11.4	305	0.549	0.123	7.8
5/21/2025 (ACZ, 2025)	3.24	0.00726	0.0001	12.4	329	0.559	0.108	7.9
5/22/2025 (CAS, 2025)	128.8	Not Analyzed	0.479	8.92	Not Analyzed	0.375	0.215	Not Analyzed
7/29/2025 (Friends of Sonoita Creek, Eurofins, 2025)	87.9 (casing)	Not Analyzed	<0.0002	Not Analyzed	Not Analyzed	Not Analyzed	Not Analyzed	7.16
	5.29	0.0064 (dissolved)	0.0002	Not Analyzed	250	0.36	Not Analyzed	6.90

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Water Quality Trends in a Drinking Water Well along Harshaw Creek

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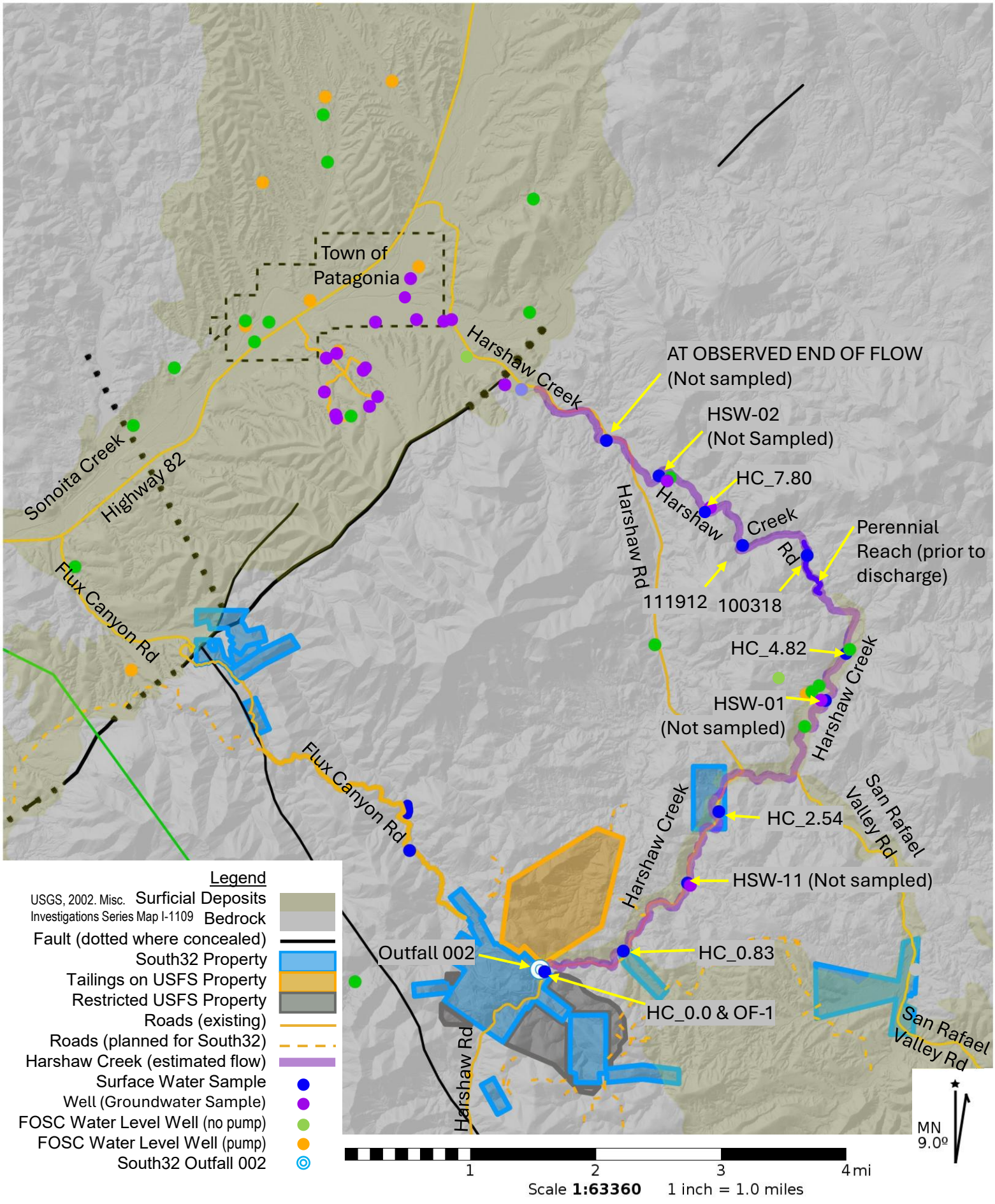
Discharge from a Tank Filled with Water from a Drinking Water Well along Harshaw Creek



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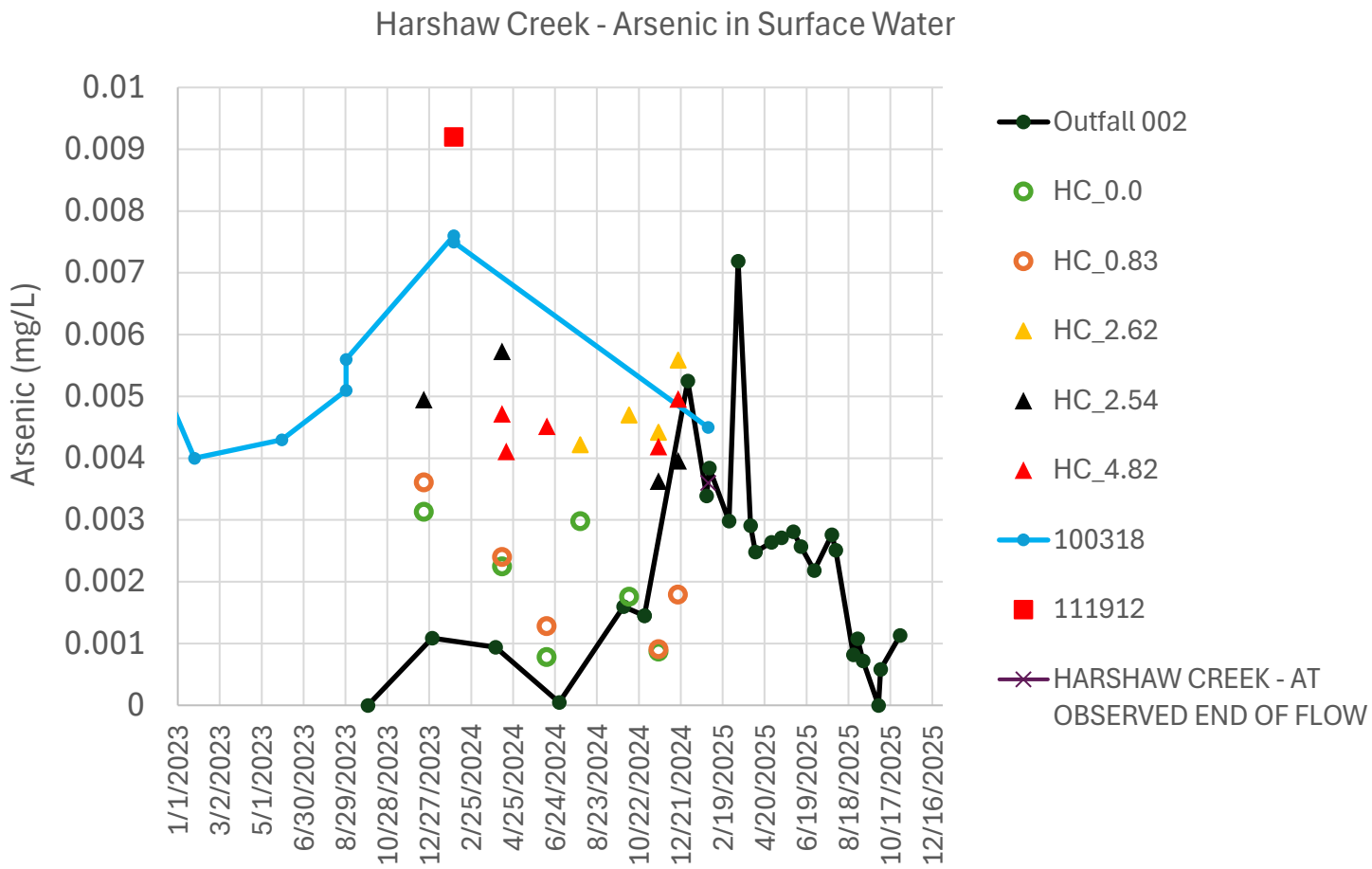
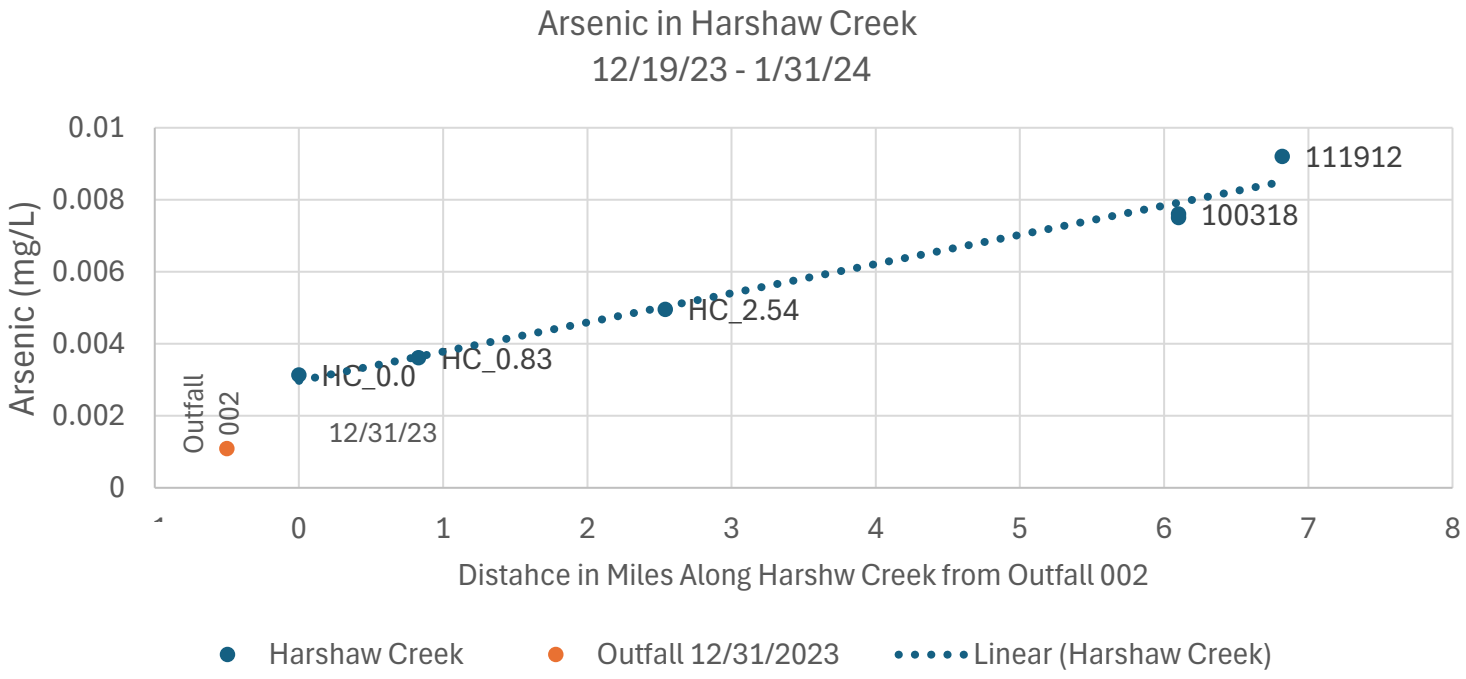
Harshaw Creek Surface Water Sample Locations 2023 - 2024





Data Sources:
https://www.epa.gov/waterdata/water-quality-data
ADEQ Records Request

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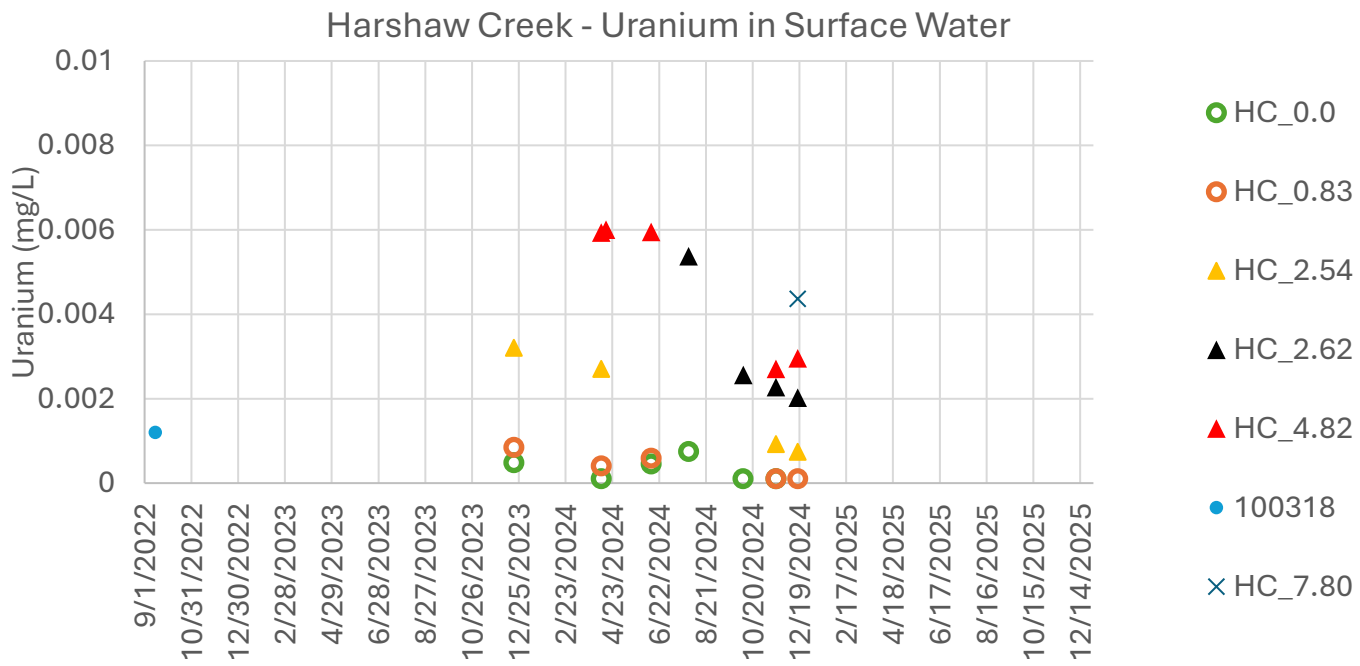
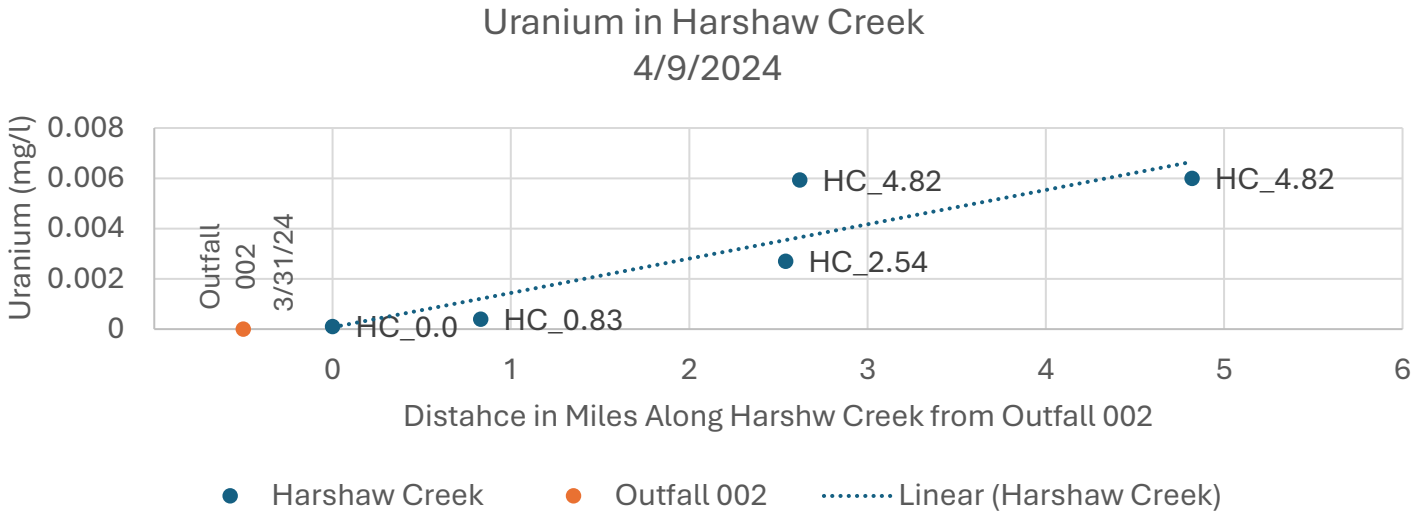
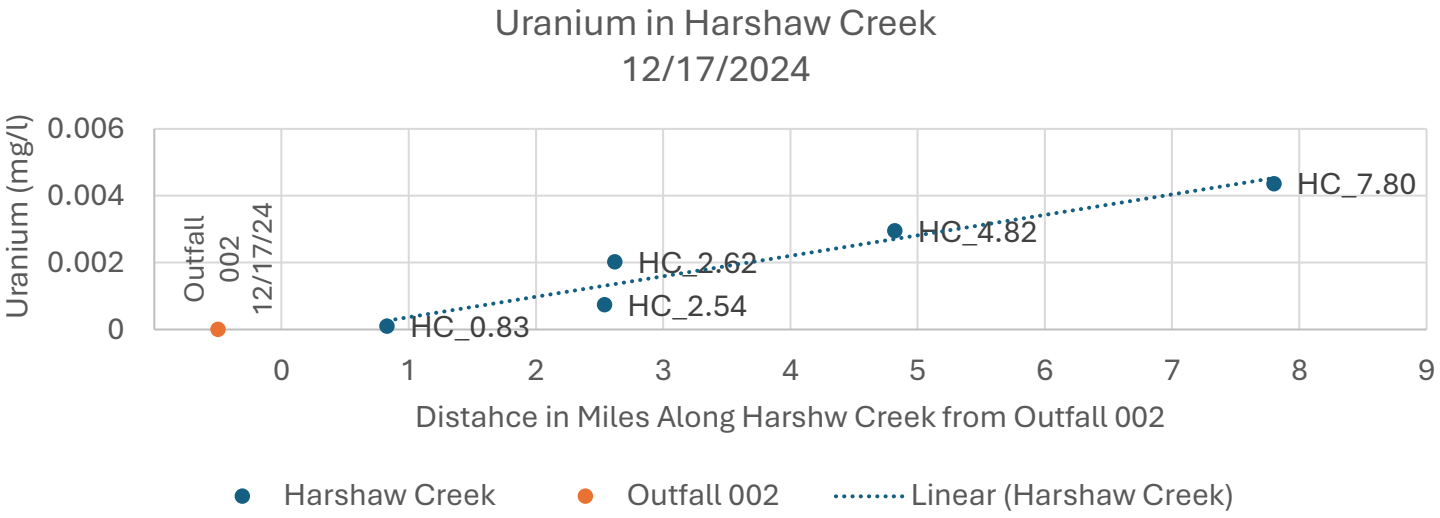
Arsenic Concentrations in Harshaw Creek 2023-2024







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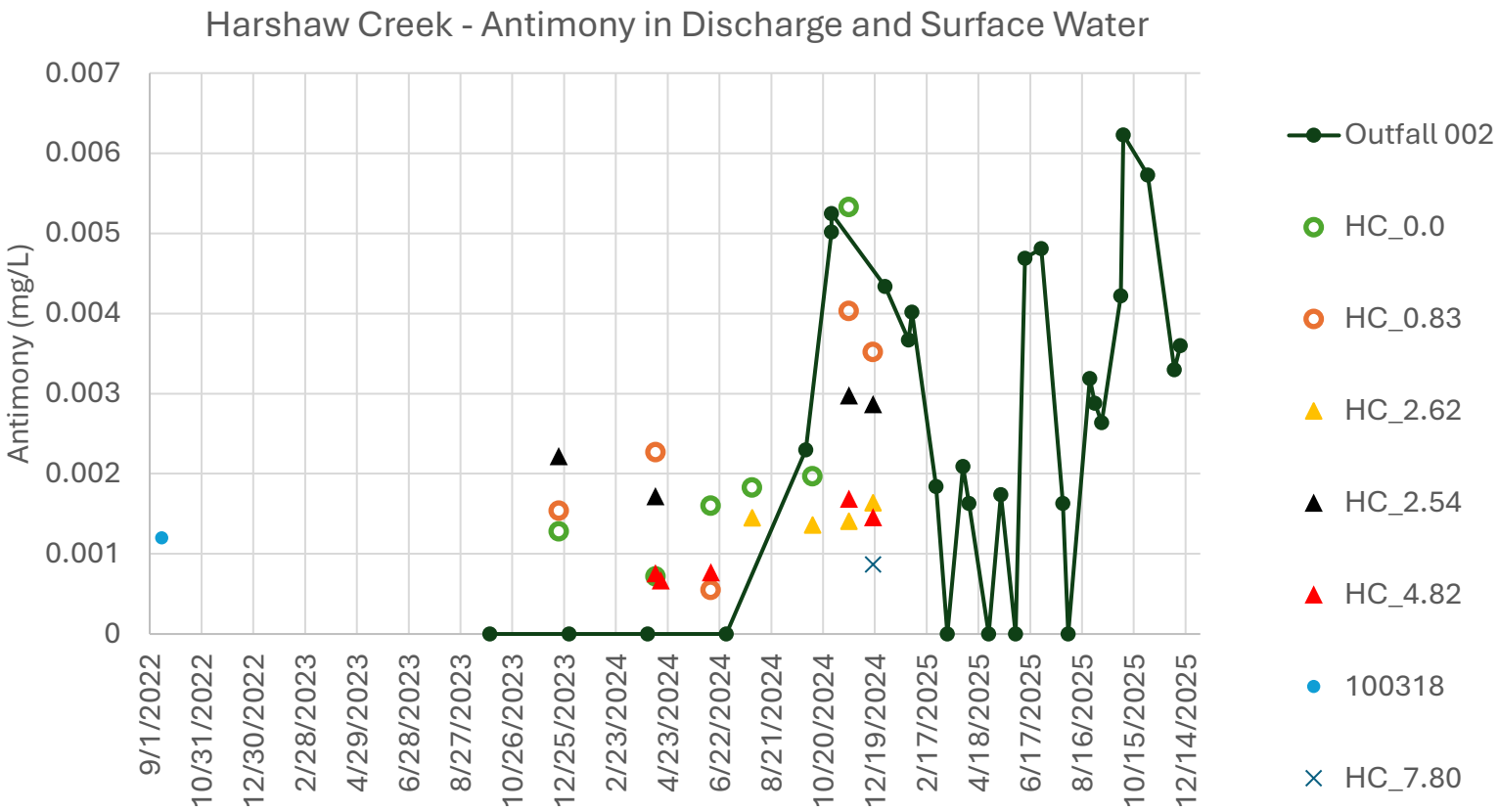
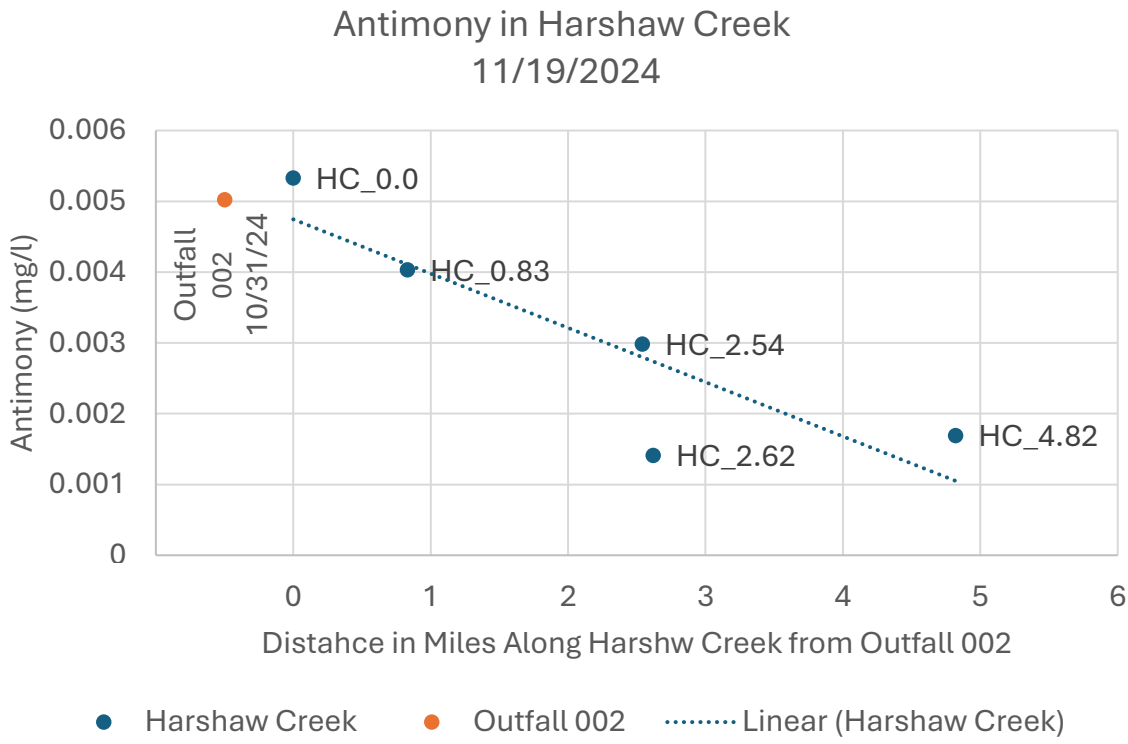
Uranium Concentrations in Harshaw Creek 2023-2024





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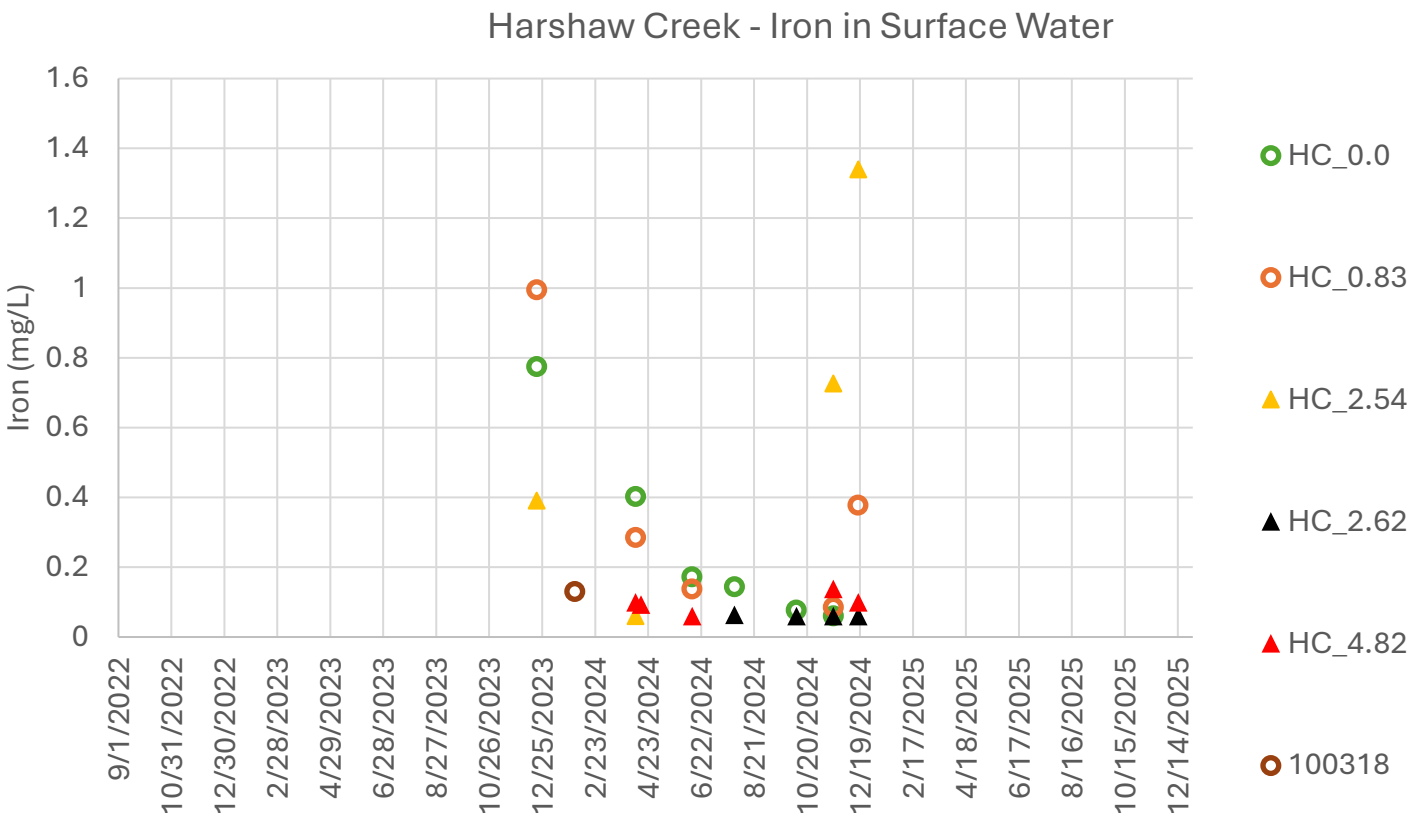
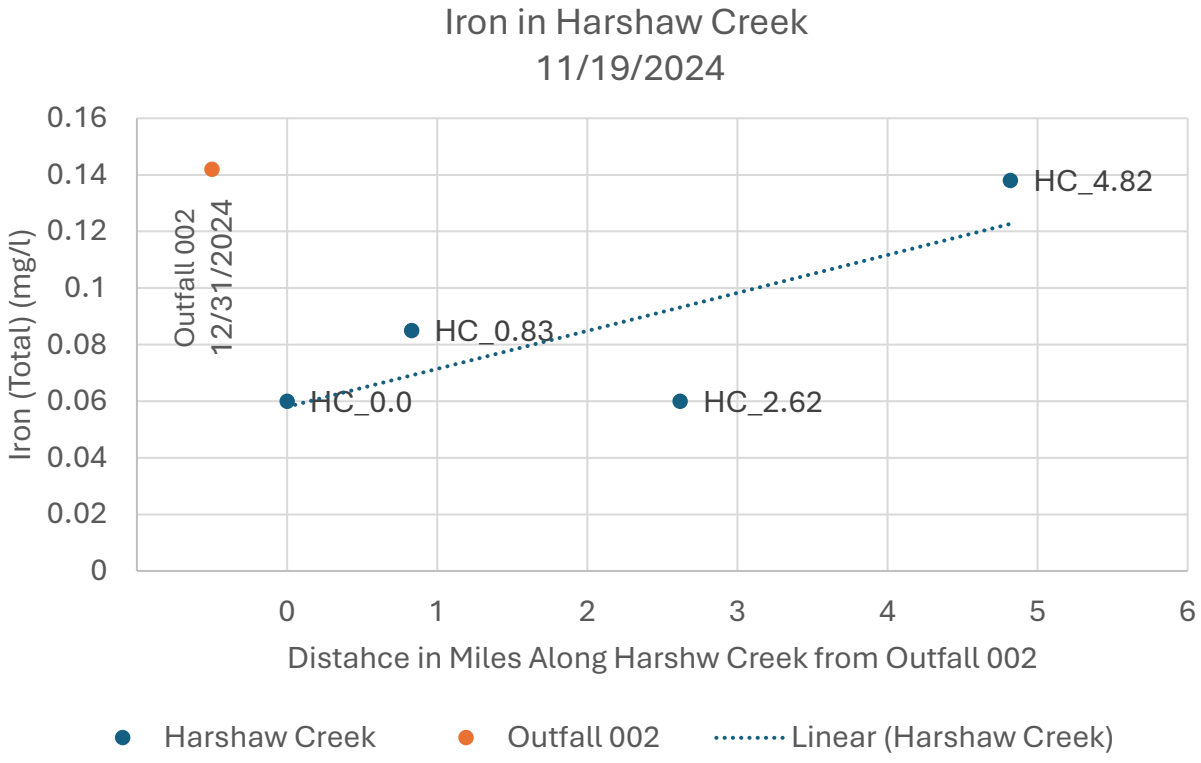
Antimony Concentrations in Harshaw Creek 2023-2024





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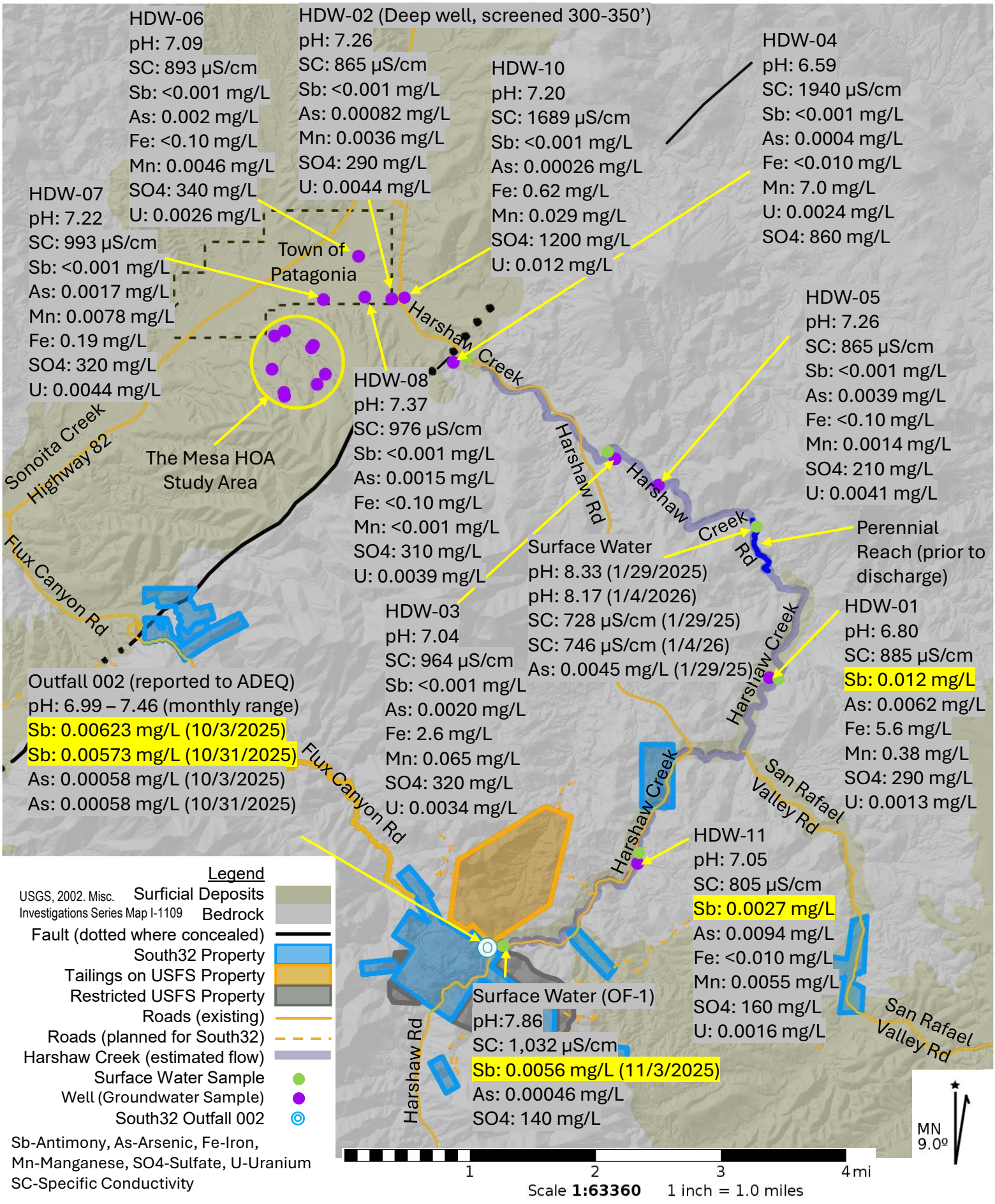
Iron Concentrations
in Harshaw Creek 2023-2024



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Outfall 002 & Groundwater Quality Results

Sampled October 29, 2025 to November 11, 2025 by FOSC

Potential Sources of Contamination in the Harshaw Creek Watershed

DRAFT 1/6/2026

Town of Patagonia

Relatively Deep Sonoita Creek Stream Channel Deposits (Source of the area's drinking water supply)

Sub Reach H DTB >100'

Analysis of Mine Area Not Conducted and/or Not Available

Treasure King Mine

Santa Cruz Mine

Silver Eagle Mine

Meadow Valley - Andesite Bedrock (Intrusive Volcanic Rock, underlies Harshaw Creek)

Christmas Gift Mine Prospects

Elevation Group Mines

Sub Reach G DTB ~20'

Sub Reach F DTB ~40'

Sub Reach E DTB ~20'

Sub Reach D DTB ~0' Perennial Flow (blue area)

Sub Reach C DTB ~20' (green area)

Rhyolite of Red Mountain / Pyrite Zone

Rhyolite (Explosive Volcanic Rock)

Christmas Gift Mine - The 2024 USFS PASI indicates issues with antimony, arsenic cadmium, copper, cyanide, lead, mercury, manganese, silver, thallium, vanadium and zinc.

Elevation Group Mines - The 2024 USFS PASI indicates issues with antimony, arsenic, barium, copper, lead, manganese, silver, thallium, vanadium and zinc.

For both mines, the 2024 USFS PASI indicates a high likelihood of generating acid and concluded that metals have been released into the environment and are present at concentrations that pose potential risk to human and ecological receptors. The 2025 USFS EE/CA8 cited surface water runoff and erosion as most likely transport mechanisms and the surface water pathway as most complete for potential exposure. Mine information from ADEQ, 2025. Harshaw Creek B-reach (Christmas Gift/Elevation Group Mines) Source ID Desktop Study (15050301-025B). Site remediations requested by USFS.

Sub Reach B DTB ~100' (orange area)

Lead Queen Mine

Great Silver Mine

Basin Mine

Area of High Arsenic in Soil to ~10,000 ppm (H&A, 2021)

South32 & Outfall 002 Discharge Point to Harshaw Creek

Sub Reach A DTB ~19' (yellow area)

Arsenic is naturally occurring within the Meadow Valley bedrock due to its affinity for lava flows, mineralized and altered zones, and pyrite. Background As > 200 ppm > SRL of 10 ppm* (H&A, 2021)

Legend

USGS, 2002. Misc. Investigations Series Map I-1109 & OFR 2015-1023

- Surficial Deposits
- Bedrock
- Rhyolite Outcrops
- Fault (dotted where concealed)
- South32 Property
- Proposed Tailings on USFS Property
- Restricted USFS Property
- Roads (existing)
- Roads (planned for South32)
- Harshaw Creek (estimated flow)
- Wells of Interest (antimony or pH)
- Mines shown on USFS Maps
- South32 Outfall 002

Colored areas are reaches of stream channel deposits or watersheds of mine areas

DTB - Depth to Bedrock (feet)

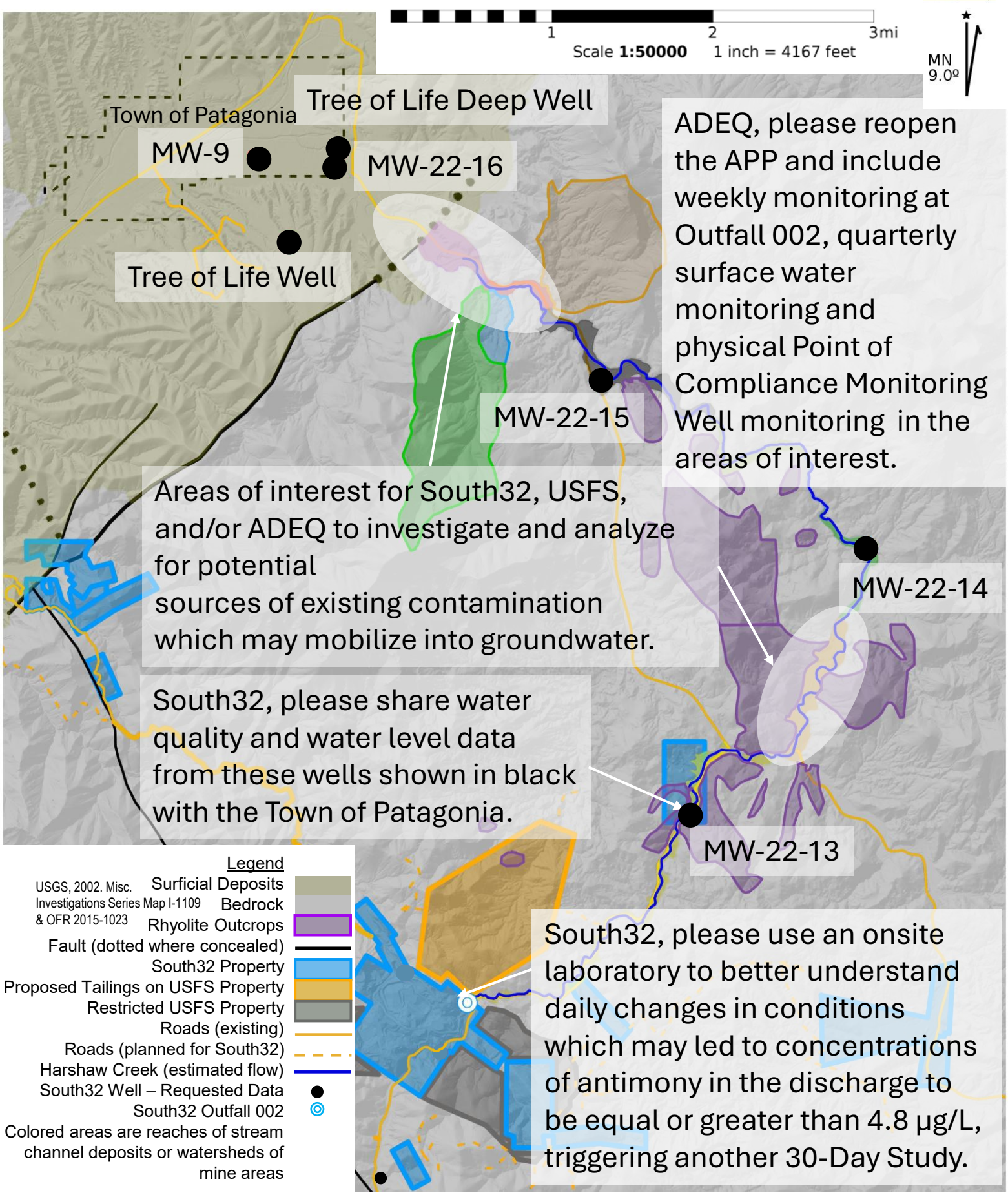
SRL – Soil Remediation Level

* SRL for Arsenic (As) is 10 ppm or Background, whichever is greater

0.5 1.0 1.5 2.0 mi

Scale **1:36000** 1 inch = 3000 feet

MN 9.0º



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Requests for South32 and ADEQ to Protect Human Health and the Environment