Meeting Summary
Bonita Peak Mining District Community Advisory Group
February 17, 2026, 5:30 - 7:15 pm
Via Computer Conferencing Online Only (due to Inclement Weather)

CAG Members: Chara Ragland, Parker Newby, Jason Fast, Chris Hill, David Palmer, Ty Churchwell, Charlie Smith, Helen Mary Johnson and Ken Balleweg.

Also in attendance: Anthony Edwards, Kirstin Brown (DRMS), Mark Rudolph (CDPHE), Emma Reinemann (USFS), Ryan Unterreiner (CPW), Jon Kaminsky (BLM), Norm Fish, Rory Cowie (Alpine Water Resources), Lisa Merrill (BLM), Venissa Ledesma (CDPHE), David Jamison (NMED), Tom Schillaci, Ryan Bennett, Jennifer Bennett, Amy Huff, Wyatt Bair (Sen. Michael Bennett's office), Terry Morris, David Heinze, Rory Cowie, and San Juan Citizens Alliance (SJCA).

EPA attendees: Ashlin Brooks, Joy Jenkins, James Hou, Jessica Duggan, Vince Bacalan and Athena Jones.

Introductions and Announcements
Chara briefly introduced the CAG members who are online.

Chara announced that Peter Butler will give a presentation titled, "Managing the Environmental Legacy of Mining", as part of the Fort Lewis College (FLC) Life Long Learning Series. The talk will be March 5, 2026 from 7:00 pm to 8:30 pm in FLC's Noble Hall, Room 13.

Ty announced that the Rocky Mountain Mining and Reclamation Conference (RMMRC) will be held at FLC on August 30 – September 2, 2026.

Tom Schillaci announced that the New Mexico Water Resources Research Institute (NMWRRI) is hosting the 2026 Animas and San Juan Watersheds Conference at San Juan College in Farmington, New Mexico on May 27 and 28, 2026. Abstracts must be submitted by April 3, 2026.

Mark announced the opening for the position of Environmental Professional II, seeking a candidate to replace his position at CDPHE.

Mark reported that the Natural Resources Damage (NRD) grants project has approved all five site proposals submitted. The projects can now pursue matching funds. They will need to get contracts with the State prior to conducting activities so they can be reimbursed.

Presentations

BLM - **Lisa** and **Jon** presented a powerpoint update on BLM Abandoned Mine Lands projects in the Gunnison Field Office Area.

2025 Projects Accomplished:

- Forest Queen Mine O&M: the project completed flow structure excavation and investigation, pipe installation and replacement, and rerouted discharges. This project is in BPMD area.
- San Juan Chief Mine & Mill: located on Mineral Creek, a tributary draining north to the Uncompahgre River, the project used a mill-borrow source to isolate lead and arsenic waste, complete Watershed Condition Assessment (WCA) construction, created safe parking and access, and installed mine-flow controls and revegetation.
- Roy Pray Mine O&M: located east of Engineer Pass on Hinsdale County Road 20, the project included ditch and pond improvement, adit brow reconstruction, a collapse and pipe investigation, and WCA for ditch and pond sludges.
- Terry Tunnel Revegetation: the project used local borrow, soil amendments and hydroseed to revegetate a waste storage area, stabilized the sides of the waste storage area, installed a gate to restrict motorized entry, and established a future access route. This project is in BPMD area.
- Anaconda Mine: located south of and draining north into Blue Mesa Reservoir, the project installed flow controls; revegetated using soil amendments, native sagebrush seedlings and seed; and installed a rock barrier to restrict motorized access.

2026 Planned Projects:

- American Tunnel O&M, sludge management
- Watering Terry Tunnel revegetation in the event of dry periods
- Jetting Forest Queen pipes
- Roy Pray O&M
- Prospect Gulch revegetation
- Installing lead signage at Animas Forks historical townsite

Lisa discussed the land status at Animas Forks, the presence of metals contamination, and presented soil sampling results. BLM contracted Alpine Water Resources (Cory) to conduct an Incremental Sampling Methodology (ISM) to assess metals contamination at Animas Forks. The ISM was used to characterize surface soils (0 – 2 inches), focusing on <2 mm particles sieved through a #10 screen to target the soil fraction most relevant to recreational exposure. Sampling locations were selected in advance by XRF soil screening to prioritize areas with the highest metal concentrations. Each location consisted of a 30-point composite, with 32 locations sampled, each on a 50 ft by 50 ft quadrant. Smaller disturbed areas (10 ft by 10 ft), likely isolated or minor spills, also were sampled. Lead was detected at concentrations ranging from 165 to 44,000 ppm, and exceeded 800 ppm at all but seven locations. Arsenic was detected at concentrations ranging from 21 to 1,346 ppm and exceeded 30 ppm at all but four locations.

Rory commented that the hottest lead sample was at an old ore bucket. Arsenic was hottest at the edge of the mill terraces. Metals contamination was found interspersed on

the dirt floor of some cabins, but was not observed radiating from a specific hot spot, such as stack emissions.

Note: At this point the presentation was paused while considerable discussion occurred regarding the implications of the sample results.

Ken asked if the lead was galena, and noted that in mineral form lead is not readily available as a biohazard. He has written a paper on it. (Bioavailability of Metals in the Environment: Implications for Health Risk Assessment. Krieger, Hattemer-Frey, Kester. 1999.)
Rory replied that they ran samples through a particle size filter and found the contaminant is possibly airborne at less than PM10.
Lisa commented that a health risk assessment shows that when greater than 6K ppm, lead bioavailability becomes less relevant.
Jon asked if the wide distribution of lead emissions was from a stack or the ground?
Lisa said they could not confidently confirm that source.
Rory noted that there are hot spots on the road, not just downwind from the stack.
Charlie asked if the risk greater than 6K ppm represents an ingestion hazard?
Lisa replied that the risk is so much higher than BLM decision making levels it exceeds the bioavailability issue. Bioanalysis is quite expensive, she said.
Charlie asked if it was special waste?
Kirstin replied that it exceeded TCLP.
Charlie commented that mining waste with lead concentrations significantly exceeding 6K ppm is subject to strict, multi-faceted environmental and safety regulations in the U.S., primarily under RCRA and CERCLA. Concentrations of 6K ppm far exceed standard hazardous waste toxicity characteristics, requiring specialized management to prevent environmental hazards.
Joy commented that EPA has bioavailability at about 56%, which is close to the 60% limit. EPA does R&D for amendments to soil to bind lead. They are working in the background here, and will work with BLM – need funding though.
Rory asked if lead was addressed in the BPMD IROD actions (Campgrounds 4/7?), has that set a precedent that it is a cleanup goal across the BPMD, with Animas Forks being the most visited site across the Alpine Loop, so maybe all agencies should be using the same approach?
Joy provided a link to the Agency for Toxic Substances and Disease Registry (ATSDR) document that looked at some campgrounds for lead exposure risk.

https://www.atsdr.cdc.gov/HAC/pha/BonitaPeak/Bonita-Peak-Mining-District-508.pdf

Refer to the ATSDR health consultation. It shows risk at certain areas for pregnant women's unborn fetus and small children. Note that there is an assumption about the amount of camping that was used in the exposure scenario. A screening level is calculated based on a certain time and activity exposure, so it would be good to understand if that matches what people are actually doing in this area.
Rory asked why funds were spent to clean up the dispersed camping areas already if we are not sure if the lead is really an issue? He noted that "Stay on established routes"

is a slight challenge because the "established social trails" between the cabins can be elevated. His dream solution would be ADA compliant raised walkways to the features.
Jon considered one potential scenario if SJMA runs a visitor center at Animas Forks. He is concerned about the health of kiosk workers there, getting chronic exposure 2 to 3 times a week, as well as visitors eating dust. Perhaps the area can be covered with a soil stabilizer such as magnesium chloride (MgCl).
Terry stated that it is public awareness that miners in this county work constantly in about 20K – 30K ppm lead (5%) almost all of which is contained in low bioavailable galena. Smelters on the other hand would occur as near plain lead which would be bioavailable. Also, the screening process to acquire these samples is in fact concentrating the galena due to its high friable nature. I have spent time trying to get better clarification of this issue from a Superfund in Fredericktown, Missouri (where I lived 5 years in grade school and remember both smelter smoke smell and many galena rock collector samples). I got somewhat the same response from EPA in Fredericktown. He brings this up because without a better explanation separating concentrations of just lead from galena (as well as concerns with sampling procedures) he believes a credibility issue exists among those working in the mining industry. Researching for studies like Ken mentioned in Telluride should be in this discussion. Perhaps there is an overreaction here.

Lisa and **Jon** continued the BLM presentation by sharing a table of the ISM results for 23 metals compared to their corresponding BLM incremental recreational screening levels (ISL). Only lead and arsenic exceeded those levels. Lisa then shared the BLM decision making reference table that shows Recreational Management Levels (RML). To address the soil contamination, she listed some cautionary measures that might be implemented between the risk assessment and cleanup actions. BLM has received input from various stakeholders for interim mitigation. Possible non-disturbing interim mitigation includes fencing to restrict access, placing gravel ground cover, soil stabilization using MgCl, online messaging or a brochure, and signage to caution visitors about metals in the soil. Signage could include draft language for lead as recommended by a toxicologist. Signage should have clear, blunt language; be low to the ground to minimize visual impact; and minimize loud colors. Special consideration should caution visitors susceptible to health impact from metals contamination, such as children, seniors and pregnant women.
Chara asked if there could be safe areas for eating?
Lisa replied they could identify eating areas, or prohibit eating using signage.
She mentioned that dust control will be attempted and expect to finish by early June.
Chara suggested it might be nice for BLM to show us signage ideas in advance, and also include the county and the historical society.
Helen Mary commented that the signage should be accurate in describing the risks and avoid it being labeled "a scary place".
Rory noted that it should not denigrate mining because modern mining is much better than historical mining.

EPA

Mayflower Tailing Pile Reuse

Jessica provided a summary of responses collected during a public meeting on December 10, 2025 in Silverton. The EPA asked meeting attendees for feedback on potential future land reuses for three of the Mayflower tailings piles: TP1, TP2 and TP3. Categories of responses included parking, solar energy, recreation, development, and wildlife habitat. Multiple use ideas also were suggested. A reuse assessment report is currently in preparation by a contractor and is expected to be released in about a month. TP1 and/or TP2 also may be considered for a future sludge waste repository if/when TP4 is at capacity.

EPA Study Updates

James provided an update on a tracer study started last year. An organic florescent dye tracer was inserted into Lake Emma last summer. Tracer collection packets consisting of activated charcoal were placed at many seep and spring locations along Cement Creek and its tributaries as well as the Upper Animas River. The dye packets collected at many locations during the fall were analyzed for the tracer and several had hits, i.e., detected the dye. Not all packets were collected and they anticipate more hits this year after spring flushing of groundwater in the area. Hits were detected at Grand Mogul and Grand Mogul south (upper Cement Creek) and at Terry Tunnel (Eureka Gulch/Upper Animas).

Joy provided an update on the Red & Bonita (R&B) valve closure. The valve was shut in on November 14, 2025, and she commented on the massive logistics to monitor the shut in. Water levels have risen and are now at the same point as when drained in 2020. There now is 180 feet of head behind the valve. They have not noticed anything crazy or brand new. There is some leakage in the adit and about 22 gpm at the bulkhead – nothing major. EPA will continue monitoring, any discharges to the pond can be measured, and it is stabilizing over time. The stream gage at the end of North Fork Cement Creek (CCSG-5) is flowing at 22 gpm and slowly creeping up, thus the shut in is having an influence on North Fork Cement Creek. The American Tunnel piezometer has not had an expected drop in groundwater elevation, and is interpreted as being influenced by the R&B closure.

Anthony commented that it has been an unusually warm winter with snow melt already. He wondered if there was any "noise" in the area.

James said the drainage is essentially dry, so R&B is the culprit.

Charlie asked what does one hit mean?

James replied that it is only one hit and they need more data this spring. There probably is a connection to the Animas River, but not sure yet.

Rory commented that there could be false hits until we get multiple data; more data will be coming soon. They can't sample Terry Tunnel in the winter. They have developed graphical and spatial mapping of the tracer results, which will be available soon. The hydrologists predicted 9 to 18 months for the tracer to show up in Cement Creek drainage, so it is still too soon to be making conclusions.

Helen Mary asked if we could get frequent and quick updates, perhaps weekly.

James said they are continuing to monitor through the year and hope to for a long time; this is still uncharted territory.

Rory had an additional comment regarding lead bioavailability. Basic geochemistry and thermodynamic stability of common lead species at surface conditions: galena (PbS), anglesite ($PbSO_4$) and cerrusite ($PbCO_3$) are all stable in oxidizing and reducing conditions from pH 1 to pH 13, with Pb soluble at pH < 1. Lead species is extremely important for bioavailability, both theoretically and by case histories. That is one of the reasons why zinc is a problem in water but lead is not.

Administrative Items

Chara announced that at the February zoom call three CAG memberships were renewed. Officers for 2026 are Chara as chairperson, Parker as vice-chairperson, and Ty as secretary.
Tentative meeting months and topics for 2026 are:

March – no meeting
April 21 – meeting at Santa Rita, guest speaker will be from FLC on a 3-D model of BPMD
May 19 – public meeting in Silverton
June 16 – open house in Silverton with EPA
August 18 – public meeting in Durango, no topic yet
September 15 – Zoom discussion, plan around the RMMRC mining conference
October20 – public meeting in Silverton
November 17 – public meeting in Durango
December – CAG discussion

7:15 pm Adjourn

Notes from online Chat:
2026-02-17 17:31:46 From Tom Schillaci to Everyone:
New Mexico Water Resources Research Institute NM WRRI is hosting the 2026 Animas and San Juan Watersheds Conference at San Juan College in Farmington, NM May 27 and 28 Abstract submissions through April 3, 2026. I submitted an abstract! Kirstin Brown CODRMS: 👍

2026-02-17 17:32:15 From Joy Jenkins to Everyone:
Replying to "New Mexico Water Resources Research Institute NM W...": Thanks Tom Tom Schillaci: 👍🏻

2026-02-17 17:34:35 From Chara Ragland to Everyone:
https://www.fortlewis.edu/about-flc/leadership/professional-associates/community-programs/life-long-learning-seriesTom Schillaci: 👍🏻

2026-02-17 17:34:57 From Kirstin Brown CODRMS to Everyone: Rocky Mountain Mining and Reclamation Conference Scheduled for 8/30/26 - 9/2/26. https://www.rmmrc.org/ Tom Schillaci: 👍🏻

2026-02-17 17:49:23 From Rory Cowie to Everyone:
Lead hazard signage

2026-02-17 17:54:23 From Rory Cowie to Everyone:
The hottest spot is an old ore bucket at 44K Kirstin Brown CODRMS: 👍
Rory Cowie: 👍🏽

2026-02-17 17:57:12 From Rory Cowie to Everyone: One of the triplicates was 64k

2026-02-17 18:11:04 From Charlie Smith to Everyone: Mining waste with lead concentrations significantly exceeding 6,000 ppm (parts per million) is subject to strict, multi-faceted environmental and safety regulations in the U.S., primarily under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Concentrations of 6,000 ppm far exceed standard hazardous waste toxicity characteristics, requiring specialized management to prevent environmental

2026-02-17 18:17:47 From Rory Cowie to Everyone: If Pb was addressed in BPMD IROD actions (Campgrounds 4/7?), has that set a precedence that its a clean up goal across the BPMD, with Animas Forks clearly being the most visited site across the alpine loop, so maybe all agencies on the same approach?

2026-02-17 18:18:33 From Kirstin Brown CODRMS to Everyone:
Lead level in IROD work 2,100 ppm Rory Cowie: 👍🏽

2026-02-17 18:23:02 From Kirstin Brown CODRMS to Everyone:
Sorry I have to do it. Drop Hot Dog woman.png
Tom Schillaci: 😃

2026-02-17 18:23:18 From Terry M to Everyone: Public awareness that miners in this county work constantly in about 20,000 to 50,000 ppm Pb (5%) almost all contained in low bioavailable Galena. Smelters on the other hand would occur as near plain Pb which would be bioavailable. Also the screening process to acquire these samples is in fact concentrating the Galena due to its high friable nature. I have spent time trying to get better clarification of this issue from a Superfund in Fredericktown, Mo. (Where I lived 5 years in grade school and remember both smelter smoke smell and many Galena rock collector samples) I got somewhat the same response from EPA in Fredericktown. I bring this up because without a better explanation separating concentrations of just Pb from lead as PbS (as well as concerns with sampling procedures) I believe a credibility issue exists among those working in the mining industry. Researching for

studies like Ken mentioned in Telluride should be in this discussion. Perhaps there is an over reaction here.

2026-02-17 18:24:24 From Rory Cowie to Everyone: “Stay on Established Routes” is a slight challenge because of the “established social trails” between the cabins can be elevated. My Dream solution would be ADA compliant raised walkways to the features.

2026-02-17 18:25:46 From Joy Jenkins to Everyone: https://www.atsdr.cdc.gov/HAC/pha/BonitaPeak/Bonita-Peak-Mining-District-508.pdf

2026-02-17 18:26:17 From Joy Jenkins to Everyone: This is the link to the ATSDR document that looked at some of campgrounds for lead exposure risk Kirstin Brown CODRMS: 👍

Tom Schillaci: 👍🏻
Rory Cowie: 👍🏾

2026-02-17 18:29:04 From Rory Cowie to Everyone: Replying to "Lead level in IROD work 2,100 ppm": So why was $ spent to clean up the dispersed camping areas already if we are not sure if the Pb is really an issue?

2026-02-17 18:30:05 From Chara Ragland to Everyone: Thanks Lisa and Jon! Great discussion and appreciate you sharing.

2026-02-17 18:45:19 From Rory Cowie to Everyone: Maybe false positives

2026-02-17 18:45:45 From Rory Cowie to Everyone: We can’t sample Terry in the winter

2026-02-17 18:46:52 From Joy Jenkins to Everyone: Replying to "Lead level in IROD work 2,100 ppm": Refer to the ATSDR Health Consultation it shows risk at certain areas for pregnant women's unborn fetus and small children. Note that there is an assumption about the amount of camping that was used in the exposure scenario.
A screening level is calculated based on a certain time exposure, so it would be good to understand if that matches what people are actually doing in this area.

2026-02-17 18:47:31 From Rory Cowie to Everyone: We have developed graphical and spatial mapping of the tracer results per suggestion last week, will be available soon

2026-02-17 18:48:35 From Rory Cowie to Everyone: 76.5 psi this morning!

2026-02-17 18:49:12 From Joy Jenkins to Everyone: Replying to "Lead level in IROD work 2,100 ppm": time and activity exposure I should have said!

2026-02-17 18:53:08 From Rory Cowie to Everyone: Water Chemistry samples collected today, due to snow I will be personally driving them over Red Mtn tonight after the meeting to go to fedEx in Grand Junction tomorrow morning!

2026-02-17 18:54:54 From hmj to Everyone: Replying to "Water Chemistry samples collected today, due to sn...": Safe driving, Rory.

2026-02-17 18:56:28 From Rory Cowie to Everyone: False positive until we get multiple hits

2026-02-17 18:57:44 From Rory Cowie to Everyone: The hydrologists predicted 9-18 months to show up in CC drainage… its still too soon to be making conclusions

2026-02-17 19:00:57 From Ken to Everyone:
Replying to "Lead level in IROD work 2,100 ppm": Rory- basic geochemistry and thermodynamic stability of common lead species at surface conditions. Galena (PbS), Anglesite (PbSO4), and Cerrusite (PbCO3) are all stable in oxidizing and reducing conditions from pH 1 through 13, with Pb soluble at pH <1. Lead species is extremely important for bioavailability, both theoretically and by case histories. One of the reasons Zn is a problem in water, but Pb is not. lead mobility diagram.jpg

2026-02-17 19:02:47 From Rory Cowie to Everyone: N fork up to 26 gpm this morning… with 16 cm new snow, and winds hit 86 mph at the mini station last night 😀
Kirstin Brown CODRMS: 😳

2026-02-17 19:05:57 From Rory Cowie to Everyone: Replying to "Lead level in IROD work 2,100 ppm": Great thanks, never had an opportunity to formally learn these characteristics

2026-02-17 19:06:57 From Lisa Merrill to Everyone: Thank you, Chara and CAG!