Summer 6-12-2023

Medical Monitoring Working Group Meeting Minutes

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June 12, 2023

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RE: Medical Monitoring Working Group Meeting Minutes

Agency Representatives:

I am writing to you on behalf of Atlantic Richfield Company and Butte-Silver Bow to submit the minutes from the Medical Monitoring Working Group meeting held on May 23, 2023. The minutes document the agenda and discussion highlights from this meeting, which focused on planning for the Phase 3 health study. The meeting minutes may be downloaded at the following link:

https://pioneertechnicalservices.sharepoint.com/:f:/s/submitted/EvAIegU8hZNKuR7bVVda4SYBcTYoKW0uQI4QChpDlU-E5A.

If you have any questions or comments, please call me at (907) 355-3914 or Eric Hassler at (406) 497-5042.

Sincerely,

Mike Mc Anulty
Liability Manager
Remediation Management Services Company
An affiliate of **Atlantic Richfield Company**

Eric Hassler, Director
Department of Reclamation
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File: MiningSharePoint@bp.com – email
BPSOU SharePoint – upload

Meeting: Butte Medical Monitoring Working Group Meeting
Date/Time: May 23, 3:15 pm Mountain
Location: Atlantic Richfield's Butte office (the Kelley) and Virtual (Teams)
Attendees:

- **USEPA** (via Teams) - Dr. Charlie Partridge, Wendy O'Brien, Nikia Greene, Steve Wharton
- **USEPA Technical Consultant** (via Teams) – Lynn Woodbury (CDM Smith)
- **BSBHD** – Kayla Harvey (Environmental Nurse) (via Teams); Eric Hassler, Brandon Warner, Chad Anderson (RMAP)
- **BSB Environmental Database Consultant** – David Dobrinen (Woodard & Curran)
- **MDEQ** (via Teams) – Daryl Reed
- **Atlantic Richfield Company** – Mike Mc Anulty
- **AR Technical Consultants** – Alma Feldpausch (via Teams), Amanda Bailey (Ramboll)
- **MDPHHS** – (via Teams) Dawn Nelson (State Toxicologist), Abbie Phillip
- **BSB Board of Health** – Dr. Seth Cornell
- **CTEC Representatives** – Dr. Bill Macgregor, Joe Griffin

Minutes drafted by: Amanda Bailey (Ramboll)

Agenda

- Introductions
- EPA Update
- Phase 3 Study Plan
    - Environmental Data – soil lead heat maps
    - Blood Lead Data Updates - reliability and handling of multiple results
    - Summary of EBLL case evaluations – 2018 and 2019
    - Community outreach and transparency
    - Draft Study Plan – discussion/comments
- Updates Since Last Meeting
    - WIC and Occupational Monitoring (BSBHD)
    - Risk Perceptions Research at Montana Tech
- Other business, next steps, plan for next call

EPA Update

BPSOU Arsenic Exposure Study

- The EPA will send, via email, an official request to the ATSDR's regional office to complete an arsenic exposure investigation for the BPSOU
- This request will be made in the interest of transparency, and was prompted by ongoing discussions with Dr. Seth Cornell and other community members including comments voiced at the last EPA-hosted public meeting regarding the need for additional health studies
- Expected timing of a response from ATSDR is uncertain; EPA anticipates sending the request before the end of May and will follow up after it has been sent

- Likelihood of ATSDR agreeing to complete an exposure study is also uncertain, noting that the agency has capacity to perform a limited number of studies, and is fairly overwhelmed with efforts in response to PFAS issues

Expanded RMAP Area Arsenic Biomonitoring

- EPA recommends changing from the current reactive urinary arsenic biomonitoring program (monitoring prompted by arsenic detection above the action level during environmental investigations) to a proactive program with urinary arsenic biomonitoring performed upon request for residents living within the expanded RMAP area
- Expanding this program could enable development over time of a urine arsenic database similar to the one currently in place for blood lead
- Protocols are already in place and labs are educated on urinalysis for arsenic
- BSB is not opposed to this effort but needs agency support, has limited staff resources
- Challenges to consider include potential for cases of elevated urinary arsenic levels without an identified source; it may be difficult to explain results to program participants in the absence of a multi-pathway program for arsenic
- EPA noted that diet is a common source of arsenic exposure and pre-monitoring protocols and questionnaires should be utilized, in addition to arsenic speciation
- EPA recommends following the ATSDR protocols used in Anaconda, noting for that study it was possible to differentiate between environmental and dietary arsenic exposures
- It is also important to acknowledge there are numerous arsenic exposure sources beyond Superfund and dietary sources (e.g., lifestyle, naturally-occurring, etc.)
- No alternative suggestions were made regarding how to handle the public's requests for EPA to address concerns related to arsenic exposures, aside from adding on to RMAP and requesting an ATSDR exposure study
- EPA noted NHANES national average is a reference value for comparison and in the Anaconda study naturally-occurring arsenic exposures did not result in a large shift from the national average urinary arsenic level
- Group agrees that extensive discussion and planning are needed to correctly design an informative program; EPA recommends regular planning meetings, separate from the Working Group meetings, to include all interested Working Group members and other relevant participants
- An ATSDR exposure study, if completed in Butte, could determine the need for development of a Butte urinary arsenic dataset; proactive biomonitoring could be a backup plan if ATSDR declines the request
- Dr. Cornell will provide an update to the Board of Health at their next meeting

Draft Phase 3 Health Study Plan

Environmental Data – Heat Maps

- Updated heat maps presented:
    - Mean lead concentrations in surface soil (0 to 2 inches) at residential properties and vacant lots (using mean concentration across each property as a whole, not each quadrant)

    - June 1995 map represents pre-abatement status (abatement activities started in July 1995), assuming that all pre-abatement soil samples collected up to the present represent soil in place in June 1995
    - October 2010, November 2017, and October 2022 maps represent post-abatement status as of the end of abatement activities completed during the Phase 1, Phase 2, and Phase 3 (to date) health study periods, respectively
    - Post-abatement status shows mean concentrations for each property, calculated using a lead concentration of 50 mg/kg to replace concentrations above 1,200 mg/kg that were removed by abatement activities completed prior to the figure date
- BSB noted that heat maps could be used to help forecast potential additional work needs
- MDPHHS suggested sharing heat maps with the public and adjusting the color scale to make higher-concentration areas stand out more; this could be done by removing the higher concentration categories that don't appear on the maps (i.e., no properties fall into that category), and noting where outliers (if any) were not included (e.g., if a category includes only a small number of properties)
- Another question is whether elevated blood lead levels (BLLs) are spatially correlated with elevated soil concentrations; where are the highest exposures expected, based on the heat maps, and if that is not where BLLs are elevated, why not?
- Correlations could be assessed on a property-specific basis or neighborhood/community scale
- Suggestions to address correlation-related questions include linear regression modeling, weighted factor analysis, and use of EPA modeling tools currently under development, then comparison of expected and actual results
- EPA is developing tools to map lead exposure factors (e.g., lead-based paint, water lines, other factors) nationwide; expected to be available in a few months, the tools are open-ended and allow for user-created layers thus environmental data could be incorporated along with other factors to model expected higher-exposure areas
- Modeling could potentially help to assess the influence of Superfund and non-Superfund sources, though this is somewhat uncertain, particularly considering confounding factors such as house age (for example, Phase 2 study indicated that mine waste still appeared to be an important factor even when accounting for house age)
- Risk perception research targeting environmental justice populations indicates that people are still missing critical information about where their greatest risks lie, and understanding what people don't know is key to helping them control their risks
    - EPA added that environmental justice screening tools are available to identify communities where a large number of people live with poverty (disadvantaged communities) and that additional focus of research should be on these areas
- It was also noted that some perceptions of risks are the result of the large amount of misinformation out there, presenting an additional challenge
- Socioeconomic issues are another important factor, and it was noted that people living in older housing also tended to be people with lower income and sensitivity is needed to acknowledge multiple sources of exposure, particularly in these areas
- Recent research has shown that immediately surrounding areas (within a two-block radius) are important contributors to exposure in addition to residential properties, representing a gap not accounted for with the RMAP
    - BSB suggesting adding data for unreclaimed (UR) and insufficiently reclaimed (IR) sites into heat maps to better represent Superfund as a whole and show close community-scale exposure sources

- As a starting point, updated heat maps with additional soil data added will be presented for discussion at the next Working Group meeting

Blood Lead Data Update

- Discussed data deidentification requirements, confirmed that current practices (removing names and addresses) are sufficient for Working Group uses of the data and have been approved by the BSB County attorney; additional deidentification may be needed for public release of the data and can be determined as needed
  - Retaining date of birth is necessary to determine age at sample collection for data analysis purposes, but could be replaced with age to further deidentify data
  - Existing process of using codes for deidentified records will be maintained; this is also useful for identifying records belonging to the same patient
  - Nearest intersection was also suggested as an alternative to addresses that would enable neighborhood-based data analyses
- Lead biomonitoring consent forms need to be modified to permit use of data for health studies/RMAP purposes
- Updated 2022 data summary presented, accounting for multiple records for the same patient; this resulted in lower counts of elevated BLLs, higher percentage of elevated BLLs with venous confirmation samples and higher percent confirmed, compared to summary presented at February 21, 2023 Working Group meeting
  - Higher frequency of confirmed results indicates higher reliability of LeadCare II data for trend analysis
- Working Group input is requested for consideration of data treatment questions noted in the Draft Phase 3 Study Plan, including selection of a LeadCare II result to use for data analysis when a patient has multiple LeadCare II records; select cases presented as examples, treatment may differ based on timing of multiple samples
  - CDC flow chart template will be added to Draft Phase 3 Study Plan as a starting point

Summary of EBLL case evaluations

- Summaries from 2018 and 2019 Construction Completion Reports presented; reports document case evaluations completed in response to confirmed elevated BLLs
- Addresses the question of how often an exposure source is identified and what those sources are for specific cases; note that identification of a potential source does not guarantee that source resulted in the elevated BLL, or that another source (e.g., outside of the home or not included in home assessments) does not exist

Draft Phase 3 Study Plan Comments

- Draft Phase 3 Study Plan is an evolving document that will continue to be updated as planning progresses and input is received at Working Group meetings and via document comments/edits
- Working Group feedback is welcome at any time; requested within the next 2-3 months for incorporation in the next update, to be circulated prior to the Q4 2023 Working Group meeting

Other Business

- EPA recommends Working Group meetings be recorded and made available to the public, and updates provided at EPA-hosted public meetings and/or CTEC meetings

- Potential dates for the next Working Group meeting will be circulated via email, Q4 of 2023 likely sometime in the weeks before Thanksgiving