Spring 3-13-2024

# Medical Monitoring Working Group Meeting Minutes

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March 13, 2024

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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 February 27, 2024. 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/EkCg354SGdtDq-xl-G941l4BMH-bX8WWKHXHH4bE7Ixo0w.

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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Butte-Silver Bow

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**Meeting:** Butte Medical Monitoring Working Group Meeting
**Date/Time:** February 27, 2024; 3:30 pm Mountain
**Location:** Atlantic Richfield's Butte office (the Kelley) and Virtual (Teams)
**Attendees:**

- **USEPA** (via Teams) - Dr. Charlie Partridge, Emma Rott, Molly Roby
- **USEPA Technical Consultant** (via Teams) – Lynn Woodbury (CDM Smith)
- **BSBHD** – Kayla Harvey (Environmental Nurse), Karen Maloughney (Health Officer) (via Teams); Eric Hassler, Brandon Warner, Chad Anderson (RMAP)
- **MDEQ** (via Teams) – Daryl Reed
- **Atlantic Richfield Company** – Mike Mc Anulty
- **AR Technical Consultants** (via Teams) – Dr. Rosalind Schoof, Amanda Bailey (Ramboll)
- **MDPHHS** (via Teams) – Abbie Phillip
- **ATSDR** (via Teams) – Dr. Michelle Zeager (Office of Community Health Hazard Assessment)
- **BSB Board of Health** – Dr. Seth Cornell
- **CTEC Representatives** – Dr. Bill Macgregor (via Teams), Joe Griffin

**Minutes drafted by:** Amanda Bailey (Ramboll)

**Agenda**

- Introductions
- Updates since last meeting
    - MDPHHS Update – Arsenic health consultation
    - Other Updates?
- Phase 3 2023 blood lead data update (geocoding)
- 2022+2023 blood lead data and case evaluation update
- Phase 3 Study Design – updates since last meeting
    - Treatment of duplicate blood lead results - 12/19/23 topic-specific call overview
    - Environmental data/heat maps – 12/5/23 topic-specific call overview
- Other business, next steps, plan for next meeting

**Introductions**

- Welcome to new EPA Remedial Project Managers, Emma Rott and Molly Roby
- Not discussed but note also that Feb. 29 was Abbie Phillip's last day with MDPHHS and she will therefore no longer participate in the Working Group
- Meeting was open to the public; no community members in attendance

**MDPHHS Update – Arsenic health consultation**

- Amanda Bailey shared update from Dawn Nelson at MDPHHS on Butte arsenic health consultation
- Data validation draft (containing only sections relevant to data analysis) will be shared with entities who provided data to MDPHHS; namely BSB, EPA, and AR
- Data shared with MDPHHS included:

    - Residential soil data dating back to 2000 (possibly back to 1992)
    - Soil data from schools, parks, and playgrounds
    - Replacement soils data
- After receipt/incorporation of comments, updated draft will be sent to ATSDR for multiple reviews as part of the agency pre-clearance and clearance processes
    - Public/stakeholder review draft health consultation tentatively anticipated around May-June timeframe

**Phase 3 2023 blood lead data update (geocoding)**

- Discussed Phase 3 study dataset and report completion timeframes
- Reviewed geocoding process for replacement of addresses with neighborhood IDs and house age information, followed by recombination with blood lead data using patient codes to maintain deidentification
- Also presented house age distributions for Uptown and the Flats
    - House age is an important indicator of potential lead-based paint presence
    - Uptown has higher percentage of older housing stock in addition to closer proximity to historical and ongoing mining and natural mineralization

**2022+2023 blood lead data and case evaluation update**

- Biomonitoring at WIC resumed post-COVID (June 2022)
- Establishment of Environmental Health Nurse position has led to remarkably high rate of venous confirmation testing for elevated capillary results
- Data summary presented for children aged 5 years (60 months) or less living within Butte-Silver Bow, tested at WIC June 3, 2022 – Dec. 31, 2023
    - No children aged 5-6 yrs (61-72 months) tested at WIC in 2022-2023
    - Differs slightly from Phase 3 study dataset which will focus on children aged 12-60 months (1-5 yrs) living within the study area
- Capillary (LeadCareII) and venous confirmation testing summary, Results ≥3.5 µg/dL (presented):
    - 40 out of 305 children tested in 2022-2023 had a capillary result ≥3.5 µg/dL
    - Of those 40, 15 had results <5 µg/dL (3.5 – 4.9 µg/dL) and 25 had results ≥5 µg/dL
    - Of the 40 ≥3.5 µg/dL, 83% (33/40) had a venous confirmation sample collected
    - Of the 33 ≥3.5 µg/dL with a venous confirmation test, 52% (17/33) had a venous confirmation result ≥3.5 µg/dL
- Capillary (LeadCareII) and venous confirmation testing summary, Results ≥5 µg/dL (not presented, shared here per questions from group):
    - 25 out of 305 children tested in 2022-2023 had a capillary result ≥5 µg/dL
    - Of the 25 ≥5 µg/dL, 84% (21/25) had a venous confirmation sample collected
        - Note in 2023, confirmation testing rate was 100% (7/7)!
    - Of the 21 ≥5 µg/dL with a venous confirmation test, 52% (11/21) had a venous confirmation result ≥5 µg/dL
- Summary of capillary results for children aged 12-60 months also shared (see Extra Slide) – to be updated with confirmation testing and result confirmation rates in a later presentation
    - Data for children aged 0 – 12 months will also be summarized

- 2022-2023 rates of results confirmed ≥3.5 and 5 µg/dL (both 52% of those with a confirmation sample) indicate overestimation of percent of children with elevated blood lead levels by about 2x
    - Estimated 13% of children tested with blood lead levels ≥3.5 µg/dL based on capillary data
    - Venous confirmation results indicate rate of child blood lead levels ≥3.5 µg/dL closer to 7%
- In summaries presented above, cases of multiple results for the same child were treated consistent with current protocol for duplicate results (presented in later slide)
    - 8 children in 2022-2023 had 2 capillary results each
    - Timing of multiple capillary samples, capillary and corresponding venous samples, or multiple venous samples affects interpretation and handling of results
- About half of venous confirmation tests at BSBHD have been done the same day or within a few days of an elevated capillary result; some within a few weeks, and some later
- Reviewed summary of 2022-2023 RMAP case evaluations, which are not limited to any age range
    - Out of 16 WIC cases of BLLs with a venous confirmation ≥5 µg/dL, environmental assessments were requested for 10 properties
    - All 10 of these had a non-mining-related source identified (included lead-based paint and 3 claw-foot tubs)
    - 8 had a mining-related source identified and 1 is scheduled for soil sampling in spring 2024 (sources included soil, attic dust, earthen basement soil, and indoor dust)
    - For claw-foot tubs, EPA clarified that lead is typically found in the porcelain coating, and this can be remedied using a modern coating product that provides a barrier
    - BSB clarified that water in the tubs has not been tested, only the tubs themselves using XRF
    - Exposure may be additive from a combination of lead in bathtubs/porcelain sinks, copper piping/lead solder, fixtures, etc.
    - Work plans for remediation are currently undergoing EPA review

**Phase 3 Study Design – updates since last meeting**

- Call held Dec. 19, 2023 to discuss protocol for treatment of multiple blood lead results for the same patient when selecting trend analysis dataset
    - Minutes circulated to Working Group with invite for today's meeting, and submitted as UAO deliverable Jan. 10, 2024 (amended submittal Feb. 26, 2024 with updated participant list)
- Protocol outlined in working copy of draft Phase 3 Study Plan updated based on Dec. 19 call to specify case-by-case review, other minor edits (last update circulated to group members was on Oct. 12, 2023)
- Timeframes for handling of multiple results will be further updated when data are available regarding blood lead clearance rates
    - EPA anticipates providing this information within the next few weeks
- Detection limits for venous samples were also discussed
    - Detection limits vary by lab, with most at 1 µg/dL and some as high as 2 µg/dL

    - CDC/NHANES detection limit for venous samples is thought to be 1 µg/dL (based on recollection of group members; not confirmed)

- Call held Dec. 5, 2023 to discuss environmental data and heat maps
    - Minutes circulated to Working Group with invite for today's meeting, and submitted as UAO deliverable Jan. 10, 2024
- Discussed most beneficial uses of heat maps as tools for community education and empowerment, to increase awareness of risks in neighborhoods with higher lead/arsenic concentrations
    - Heat maps may also be a helpful tool for predicting areas where declines in rates of elevated blood lead levels might be anticipated
    - Heat maps are also useful for relaying improvements over time after years of remediation
- Discussed challenges associated with linking environmental and blood lead data using heat maps, including data privacy issues, confounding factors, and other challenges
    - For the Montana Tech risk perception study, deidentification was done through arbitrary selection of the closest street intersection and this seemed to work well to indicate where micro-neighborhood level effects could be discerned
- Confounding factors such as higher rates of elevated blood lead levels in addition to greater prevalence of older homes and the presence of the ore body in the Uptown neighborhoods may limit use of heat maps to a more qualitative analysis of potential correlations
    - So far, haven't identified a way to do a more quantitative analysis without an exposure study or another way to link individual blood lead levels to environmental data (due to privacy concerns)
- Dr. Cornell recommends neighborhood 2 as an example to look at environmental and blood lead data due to variation in soil lead concentrations (higher to the east, lower in the middle, higher again in the area of Westside Soils) and the presence of older homes, and use of co-kriging for this analysis
    - Noted house age distribution different from soil concentration distribution in N2
    - Western portion of the ore body is also higher in lead (lead and silver were mined here), while the eastern portion is higher in copper
    - House ages could also be mapped by neighborhood
    - Can keep working to identify a suitable method for correlating environmental and blood lead data; this may be a recommendation for the Phase 4 study

**Other Business**

- Proposed June 4 or May 21, 2024 for next (Q2 2024) Working Group meeting