

RESTORATION ADVISORY BOARD MINUTES

October 20, 2020

The Restoration Advisory Board (RAB) meeting was called to order by Jen Busard at 9:06 a.m. on 20 October 2020. Due to the pandemic, this meeting was held virtually over MS Teams.

Minutes Review

There were no corrections to the minutes from July 2020. There were also no public comments.

Agenda Review

The October 2020 agenda was accepted as written.

Building Demolition Status

Randy Doyle provided an update on the Building Demolition program. He indicated that they are winding down out there with 92% of the funded work completed and all phases of the program are funded. Phases 1-5 are complete, and Phases 6-9 are ongoing. He added that there is an updated status since the slide was prepared: ~392 structures demolished; ~900k sq ft. There are a couple of water towers remaining and we are removing some old signs.

Randy provided a project update in regards to recycling:

- Over 150,000 Ton of Concrete crushed for re-use
- Over 4,000 Ton of metal recycled
- Realizing 85% diversion rate of solid waste (concrete, recyclable items). Stockpiling some sand for future projects

With regards to environmental stewardship:

- 2,900 Ton of Asbestos abated
- 40 Ton PCB Contaminated debris abated
- Proper disposal of other regulated material (lead, ballasts, Hazardous Material)

Randy shared a series of photos:

- Line 800 is complete
- Line 6 is complete. One structure out there that is active
- Line 5 is complete. Green pasture. There will be a groundbreaking on the solid waste center within 30 days. New logistics center will also be in this centralized area
- Line 8 is complete and vegetated. All saddles were removed from the woods
- Line 1 is 98% complete
- Line 3 is 95% complete

Mark Hagerla asked what the saddles were. Randy replied that these were concrete structures that held the tanks at Line 8 and there were a lot more than expected. Mark asked if they tested the soil under the tanks. Randy said they didn't as part of the demolition program. Jen will have to look and see if that is part of the contract for soil

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sampling that USACE is going to be doing.

OU-3 Update

Darlene Abbott of Aerostar presented an update of OU-3 with the latest annual groundwater (GW) and surface water (SW) data and evaluation of off-post results. She reminded the group that the off-post contaminants that are present are explosives and are mainly royal demolition explosive (RDX). The contamination came from:

- Actively loading, assembling and packing medium- and large-caliber ammunition items (explosives) for the Department of Defense using modern production methods in support of worldwide operations.
- Contaminants from these activities have made their way into soil, SW, and GW over the years of operation at the Iowa Army Ammunition Plant (IAAAP).

Brush Creek SW Sampling:

- Sampled monthly
- 3 sampling locations: BC-OFF-1, BC-OFF-6, and BC-OFF-3
- Analyzed for explosives

OU-3 GW Sampling:

- Sampled annually, usually in October/November
- Analyzed for explosives
- Groundwater (GW) sampling will continue until RDX concentrations are below the health advisory level (HAL) of 2 µg/L.

OU-3 Reporting:

- Analytical results from SW and GW monitoring activities are summarized and presented in the OU-3 Off-Site Annual Monitoring Report and Sampling & Analysis Plan.
- RDX SW concentrations typically decrease with distance downstream from the facility boundary, but are regularly above the HAL of 2 µg/L.

Darlene showed the latest SW results and said this presentation covers the OU-3 annual SW results from the last report through December 2019. Spikes shown are attributed to demo work being conducted and the high rainfall/flooding events.

The summary of results are presented in the FY20 OU-3 Off-Site Annual Groundwater Monitoring Report and Sampling & Analysis Plan and the conclusions for OU-3 SW are:

- Spring months RDX concentration trends in SW: there is a relatively high statistical confidence (95.3%, 99.9%, and 99.9%) in decreasing RDX trends for all three SW sampling locations for the spring sampling timeframes, no trends can be established for the fall timeframe.

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- Fall months RDX concentration trends in SW:
 - BC-OFF-1: no trend with a confidence of 82.6%
 - BC-OFF-6: a decreasing trend at a confidence of 95.6%
 - BC-OFF-3: a stable trend with relatively low confidence at 64.1%

The path forward for OU-3 SW is to continue SW sampling at the three Brush Creek locations (BC-OFF-1, BC-OFF-3, and BC-OFF-6) until the RDX SW concentrations are below the HAL of 2 µg/L or until other RDX criteria are established and met.

Mark asked if there was any indication of where the spikes are coming from. Darlene answered that some of the buildings being demolished and remediated have been found to be sources.

Aaron Steele added that we do know that one source to Brush Creek is the tributary at Line 1 where the Bioreactor is constructed. USACE also just awarded a \$1M soil investigation effort to come in behind Randy's demo team which will also help to better understand the sources.

Mark indicated that the testing should have been done when the buildings came down. Steve Bellrichard pointed out that FUSRAP has been sampling all along when demo was happening since the contract was already in place. Danny O'Connor agreed with what Mark had mentioned – that EPA would prefer to have the Installation Restoration Program (IRP) team sample during demo, but Danny also acknowledged that federal contracting is very complicated and time consuming.

Kim-Lee Yarberry observed that there is a general decrease trend since 2007. Darlene said she agreed and added that it does take time statistically to show trends.

Bruce Workman asked what MW-123 was, and Darlene replied that it is a monitoring well adjacent to Brush Creek. It is not screened at a perfect location, but it is nearby. Bruce also asked if BC-OFF locations are lined up numerically. Darlene replied that they are out of sequence (1, 6 and then 3).

Steve made a comment that the majority of the RDX source to Brush Creek is thought to be from Line 1. As the buildings came down at Line 1, they were sampled immediately by FUSRAP where applicable. Soil samples came back above the action level and there will be additional remediation in the future.

Darlene continued, recall that for GW in the past the maps showed a little red hotspot and while we didn't have that last year, it was likely due to dilution and the time of year that the samples were collected (February during flooding). This year the hotspot has returned.

OU-3 Annual GW Sampling Event:

- Conducted in November 2019
- Results are documented in the FY20 OU-3 Off-Site Annual Groundwater Monitoring Report and Sampling & Analysis Plan
- Despite the lower RDX concentration in MW-309 during the FY20 sampling event, the concentration trend for MW-309 is still increasing with a 99.2% confidence

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- >50 µg/L RDX concentration plume core has increased since last fiscal year

GW Results:

- >2 µg/L RDX plume is approximately the same footprint/surface area as last fiscal year
- It was noted that MW-117 (in Old Hwy 61 right-of-way) was damaged by snowplow activities
- A replacement well for MW-117 is scheduled for replacement in November 2020 so that the well can be sampled during this year's GW monitoring event
- A new right-of-way permit has been received for this activity and the installation is being coordinated with IDNR and EPA

Darlene then presented the Path Forward for OU-3:

- GW and SW will continue to be monitored until the concentrations are below the HAL or until other RDX criteria are established and met.
- An evaluation of the conceptual site model is being conducted by the Jacobs team and a revised remedial design is being developed in coordination with EPA.

Bruce asked what a revised remedial design means? Darlene said Jacobs would discuss this further, but her understanding was a revised injection approach for treating the plume further down to 2 ppb. Bruce also asked if the new right of way will have protection to keep it from being hit again. Darlene said she will ask the county what can be done.

There were no further questions.

Environmental Services Update

Jeff Morrison of CH2M HILL, now Jacobs, presented an update on the Environmental Services Contract. Under the CERCLA program the objective of the Remedial Investigation (RI) is to determine the nature and extent of contamination, to update the conceptual site model, and evaluate risk. Jeff M. gave a broad overview of the various work being conducted at different parts of the facility, by different contractors, and under the supervision of different USACE districts to provide context for why things seemed to be disconnected. He updated the team on where the various RI reports stand for the Jacobs/Leidos team:

RI Activities Update:

- Submitted Interim Human Health Risk Deliverables (HHRA) to EPA for OU-11 and OU-7
- Incorporating changes into risk assessments for all other sites at IAAAP
- Submitted the internal draft RI report to Army for OU-4 and draft final RI report to EPA for OU-9
- Continuing to work on internal draft RI reports for OU-11, OU-12 and OU-7.

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- Reports for OU-6 and OU-10 will be underway soon.
- OU-3 Optimized Remedial Design (RD) is being prepared, to include additional bioremediation injections within the 50 ug/L RDX off-site plume area.

Jeff Gamlin provided some context for the OU-3 Optimized RD work that we have been performing and why we believe the conceptual site model is different than previously understood. There is a bowl of clay in the underlying aquifer that is holding up the RDX in the area of the hotspot in the off-post plume. The amendment that was originally chosen only lasts in the environment for a couple of months and that wasn't enough time to sustain. Not only that, but also the amount of amendment wasn't sufficient.

Bruce asked about the subterranean bowl and if there is a visual to better understand. Jeff G. said we can provide a cross section diagram next time to help explain. Bruce asked if they had in mind what the new substrate amendment will be. Jeff G. answered that he has one in mind, but he doesn't want to share specific vendors yet without discussing it with the Army first, but he is thinking emulsified vegetable oil maybe with lactate.

Jeff M. then updated the team that a Site Inspection (SI) is underway for emerging contaminants called per- and polyfluoroalkyl substances (PFAS) at IAAAP:

- Final SI Work plan submitted to EPA in October
- Based on conclusions and recommendations of the PFAS Preliminary Assessment (PA)
- Field work planned at the former Fire Department, Fire Training Pit, and Trench 6 at Inert Disposal Area (IDA) for Nov/Dec 2020

Bioreactor Treatability Study

Jeff M. then provided a Bioreactor Treatability Study (TS) update. Jacobs is collaborating with Engineering Research & Development Center (ERDC) to evaluate a RDX treatment system for the South Tributary to Brush Creek:

- Phase 1 Drum-scale testing was completed in August and the results were positive
- Phase 2 (full-scale) tanks filled in August 2020 and testing started in Sept 2020
- Preliminary Phase 2 results are also promising, but it has not rained enough to fully evaluate treatment rates
- Experienced some challenges with implementation, but gained several lessons learned for future designs

Jeff M. showed a series of photos showing the summer conditions and what the Phase 1 (Drum) and Phase 2 (Tank) systems looked like as of August. He also showed a table with preliminary TS results for both Phases.

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eff M. presented the promising data that showed influent concentrations as high as 53 ppb being treated down to as low as 3 ppb. The data also confirmed that Line 1 is a source for RDX to Brush Creek as Steve had brought up earlier. What is puzzling to the Jacobs team is the fluctuation of influent levels of RDX which may be related to either the demo activities there or to the production facility itself (if sump pumps are intermittently used).

Jen asked if the bioreactor will be in full swing by the time Darlene's team does their annual OU-3 sampling? It depends on the weather.

Aaron added for IRP that USACE modified the PARS contract to restore capacity at the Line 1 Impoundment.

There were no further questions.

FUSRAP Update

Mike Kessler provided an update on FUSRAP activities. He started off with a new slide showing FUSRAP areas of responsibility in OU-1 and OU-8. He then reminded the group what the acronym FUSRAP stands for: Formerly Utilized Sites Remedial Action Program to deal with former atomic energy commission radioactive waste. Assigned to Department of Energy (DOE) and then transferred to USACE. Two OUs assigned: OU-1 for primarily explosives contaminated soils in Line 1 and West Burn Pads (WBP), while OU-8 is predominantly for looking for low level radiation. Mike presented a slide that shows how FUSRAP interacts with CERCLA and showed that they are still in the remedial action (RA) phase of process at IAAAP.

For OU-1, the West Burn Pad South (WBPS) of the road Remedial Action Completion Report (RACR) is complete.

Additional remediation is required at Line 1:

- Samples collected from the soil beneath Bldgs. 1-70 and 1-05-1 were >Remediation Goals (RGs); warranting additional sub-surface sampling
- Samples collected 10-12 AUG included Bldg. 1-155-1. Final results are pending.
- Additional sampling planned for Buildings 1-03 and 1-10/12 Clarifiers once they are demolished
- Line 1 RA Scope of Work (SOW) is still in progress. Now planning for remediation in 2022

OU-8 Firing Sites 12 Area:

- RA is complete in Firing Sites (FS)-1/2 Area, FS-3/4/5 Area, and the FS-14 Area
- Final Status Survey is complete in 70% of the 125 FS-12 Survey Units (SUs)

Mike shared a number of restoration photos and his maps showing progress updates.

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Q1 2020 activities completed:

- OU-1:
 - Completed additional soil sampling for Bldgs. 1-70, 1-05-1, and 1-155-1
- OU-8:
 - Final Status Survey of SUs 1-2
 - Manual remediation of SU-3
 - Excavation and processing of soils in Area I Survey Units + Gamma Walkover Survey verification and backfilling
 - OU-8 Line 1 Structures RACR
 - Regulator review of 2020 (“West-Central” SUs) PRAR/FSSE + prepared responses to comments received
 - USACE review of Area E (Test Fire Pit) Pre-Design Investigation (PDI) Work Plan
 - Disposed of Steel Plate #3 from FS-12

Q1 2021 activities planned:

- OU-1:
 - Start development of PDI Addendums for Buildings 1-03/04 and Clarifiers
 - Start PDIRs for Buildings 1-70, 1-05-1, and 1-155-1
 - Continue development of SOW for Line 1 remediation contract mod
- OU-8:
 - Complete PDI/Manual RA in SE corner SUs
 - Complete excavation and processing of soils in Area J SUs + Area K east of FS-6 road
 - Finalize OU-8 2020 PRAR/FSSE
 - Sample in Area E per PDI Work Plan
 - Restoration Area I and other SUs
 - Collect Fall 2020 environmental monitoring samples

Mike provided a status update on progress toward 2020 goals, the constraints they faced, and then presented a slide with 2021 goals:

- Ship 3,400 CY of >RG material
- Process 20,000 CY of material
- Stockpile 2,000 CY for future shipping
- ‘Release’ 25 Survey Units
- ‘Release’ FS areas not at FS-12

Mark asked about the fenced in area in the southeast area of the IAAAP. Is that a FUSRAP responsibility? Danny answered that it sounded like he is referring to the Incendiary Disposal Area (InDA) and that there was no link to the Atomic Energy Commission (AEC) in that site. Mark thought it was a dump site for AEC and he

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reminded the team that he isn't happy about the fenced-in area.

Jeff added that we sampled the GW at the InDA from within the fenced in area. The Military Munitions Response Program (MMRP) did 100% of the cleanup of the surface and removed UXO and MEC anomalies, but without having 100% confidence they decided to put up a fence for safety reasons.

There were no further questions.

Old Business – Action Items from Previous Last Meeting

No old business today.

Action Items for Today

- Jen answered a question that Mark had earlier today about the Line 8 tank saddles. She said that Line 8 is not on the list for soil sampling. Those areas were already sampled at the Tank Farm and have been remediated.
- Regarding the Soil Sampling After Demo List sent to the RAB on 4 August, Julie wanted clarification on page 5 of 18 that the post excavation samples were taken from all the walls and floor. Kim-Lee clarified that when Tetra Tech excavated soil they referred to the floors and wall as soil sample locations within the excavation.

Next meeting will be January 12 at 9 a.m. It may be virtual again.

Meeting adjourned at 10:48 a.m.

Original signed by:



Sarah Brockway
Secretary

Original signed by:



Jen Busard
Army Co-Chair

- Exhibits:
- 1 Attendees
 - 2 Agenda
 - 3 Remedial Investigation Update
 - 4 Building Demolition Status

Iowa Army Ammunition Plant
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Exhibit 1

GOVERNMENT MEMBERS PRESENT (4)

LTC Eric J. Schilling
Dan Cook
Jen Busard
Danny O'Connor

RAB MEMBERS PRESENT (4)

Robert Haines
Julie Solinski
Bruce Workman
Mark Hagerla

PUBLIC PRESENT (20)

Zaynab Murray
Steven Bellrichard
Jeff Morrison
Mike Kessler
Sarah Brockway
Aaron Steele
Randy Doyle
Kim-Lee Yarberry
Dean Johnson
Heather Smith
Hunter Blair
Kirk Bargerhuff
Jeff Gamlin
Renie Aitken
Andy Keim
Darlene Abbott
Maggie Stephens
Rebecca Roberts
Rachel Williams
Scott Smith

Total in attendance: 28