



U.S. ARMY

Former Badger AAP RAB Meeting

July 26, 2023





RAB Agenda – July 26, 2023

- **Welcome and Opening Remarks**
- **Roll Call**
- **Review of the Minutes from April RAB**
- **County Road Z Residential Sampling Update**
- **Optimization Updates:**
 - Well Installations
- **Groundwater Sampling Summary (Spring 2023)**
- **Gruber's Grove Bay Sediment RI Update**
- **Project Management Updates**
- **Future Meetings**
- **Questions and Closing Comments**





Welcome/Opening Remarks

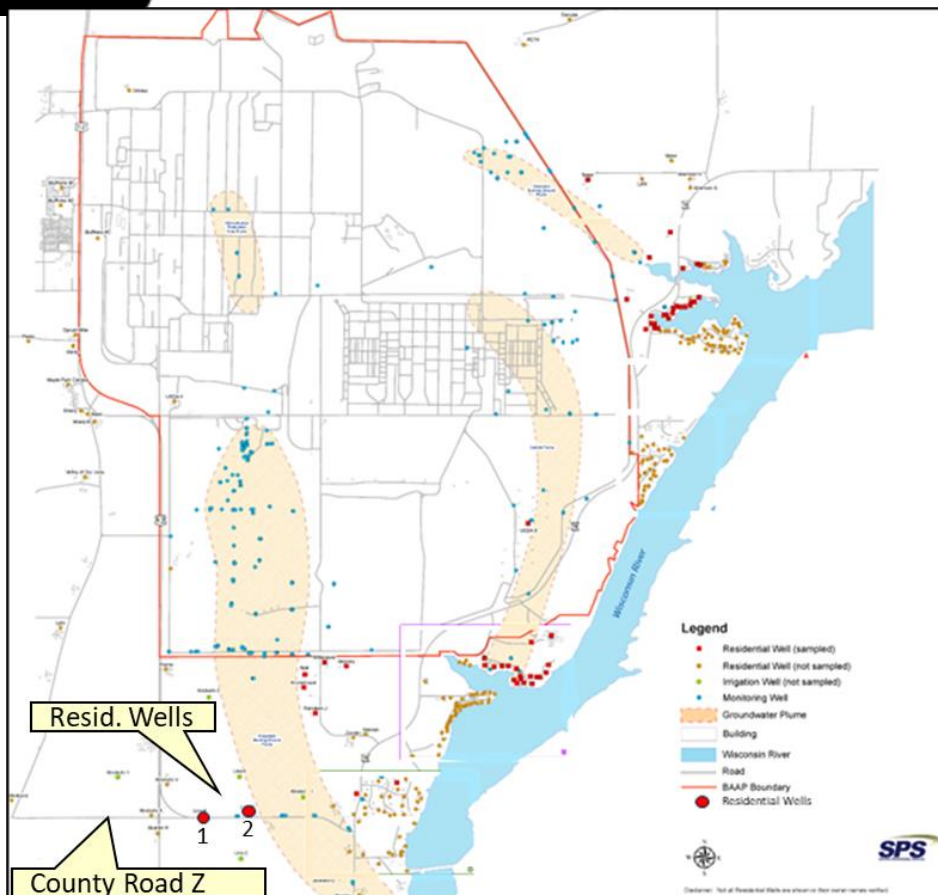
Former Badger Army Ammunition Plant Restoration Advisory Board

July 26, 2023





County Road Z Residential Sampling Update



The two residential wells along Cty. Rd Z have not been affected by the PBG DNT Plume or any associated chlorinated solvents.

DNT

- Well 1 had DNT detection 2006 that was an order of magnitude less than the ES (0.05 ug/l). No DNT has been detected from 2007 to 2018
- Well 2 has never had DNT detected from 2006 to 2018.
- PBG DNT Plume is interpreted to be east of the residential wells 1 & 2

Chlorinated Solvents

- Both wells are screened in the bedrock.
- Well 1: 288 ft bgs; top Bdrk 248 ft bgs
- Well 2: 275 ft bgs; top Bdrk 240 ft bgs
- The chlorinated solvents are "sinkers". Their specific gravity is heavier than 1 gm/cc (water)
- Neither residential well has had any chlorinated solvents detections from 2006 to 2018.

Both the WDNR and Army agreed it was no longer warranted to sample the residential wells: 1) DNT has been non-detect since 2006/2007. 2) No history of detections of chlorinated solvents. 3) PBG Plume is east of the wells and is continuing to migrate eastward, and 4) Both wells are screened in the bedrock, physically segregated from the sand deposition above.



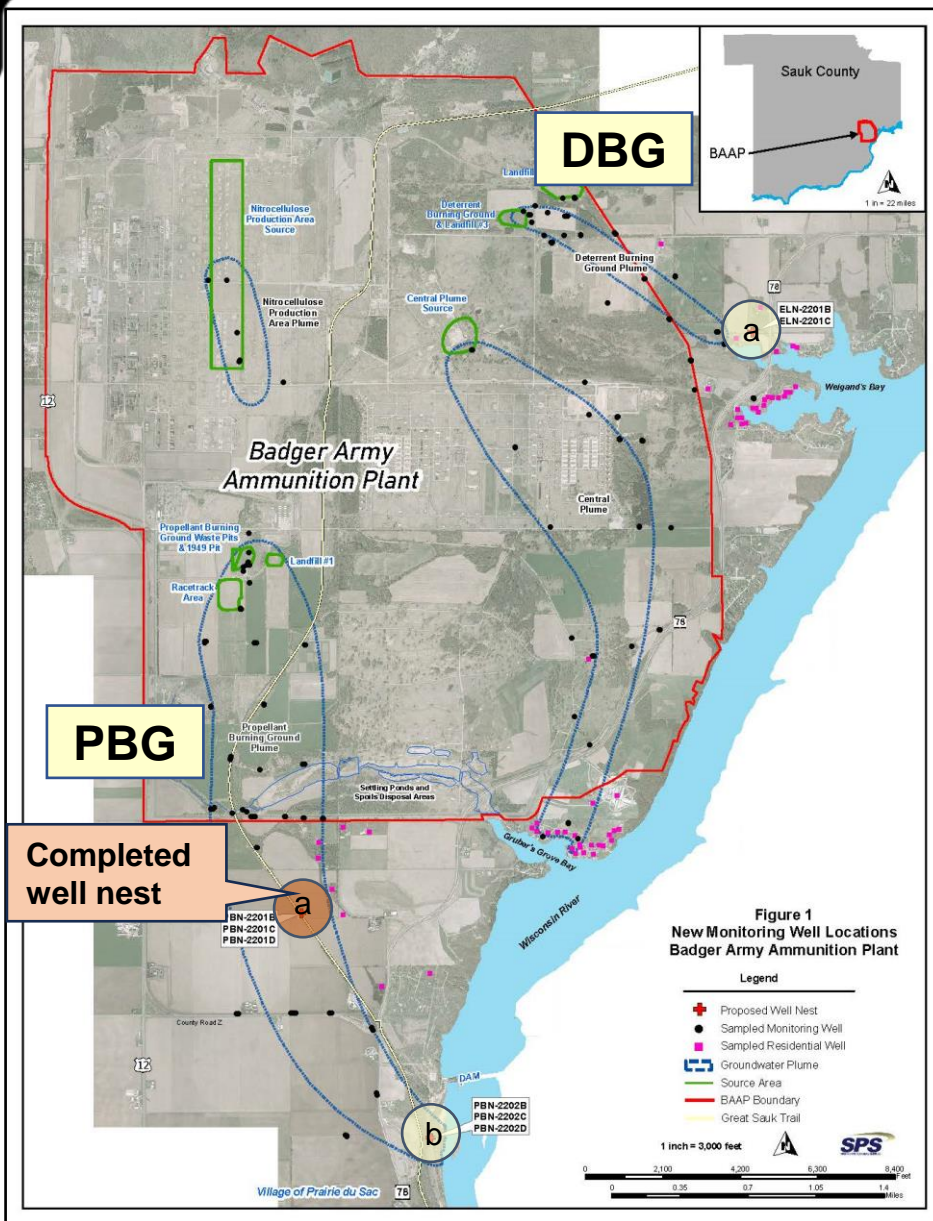


Optimization Updates: Well Installations

- **The Army is in the process of drilling 8 monitoring wells to help define plume delineation for the Deterrent Burning Ground (DBG) and Propellant Burning Ground (PBG) Plumes**
 - Completed a PBG Well Nest of three wells near the Great Sauk State Trail on May 25, 2023. The remaining five well installations are planned to be completed in the 2023 Summer.
 - Remaining property owners (Private landowner, and Alliant Energy) tentatively agreed access to well installations and sampling pending leasing agreement.
 - Continuing to work with the USACE-Omaha District Property Management to secure property right-of-entry (ROE) for the monitoring wells with the remaining property owners.



Optimization Updates: Well Installations



- **Deterrant Burning Ground Plume (DBG)** : 1 location; 2 wells
 - a) Planned Depths
 - i. 93 ft
 - ii. 158 ft
- **Propellant Burning Ground Plume (PBG)** : 2 locations; 6 wells
 - a) Completed Depths
 - i. PBN-2301B 120 ft depth
 - ii. PBN-2301C 180 ft depth
 - iii. PBN-2301D 252 ft depth
 - b) Planned Depths
 - i. 51 ft
 - ii. 98 ft
 - iii. 147 ft
- Well Nest PBG (a) Completed May 25, 2023.
- Currently obtaining ROE permission from property owners for PBG (b) and DBG (a) .
- Wells to be installed as nests, providing a vertical profile of the plume.



Optimization Updates: Well Installations

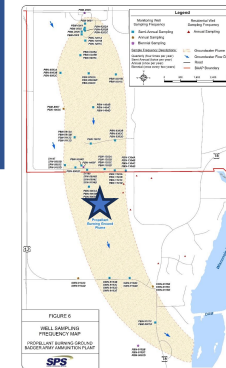


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Planned and Completed Monitoring Wells

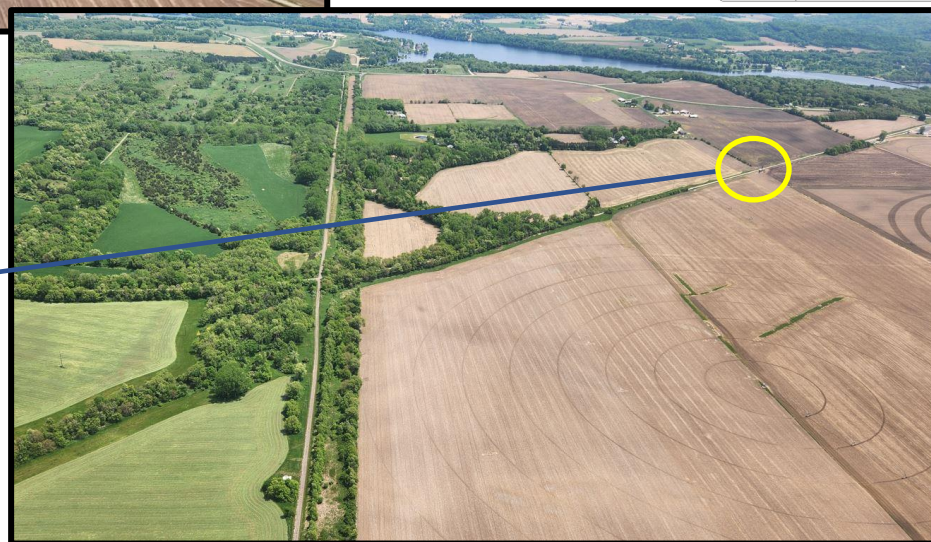


Monitoring Well Installation looking north



★ Completed monitoring well nest

Monitoring Well Installation looking east



Optimization Updates: Well Installations



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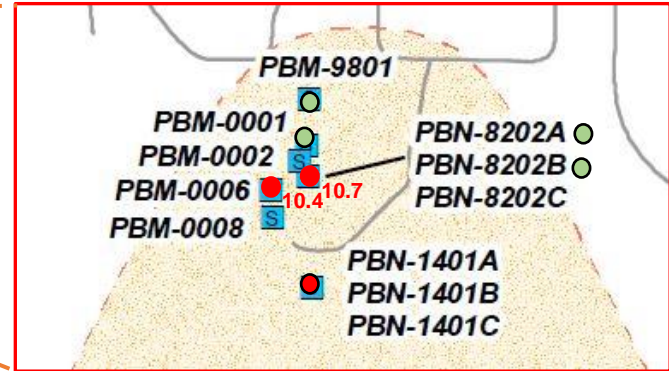
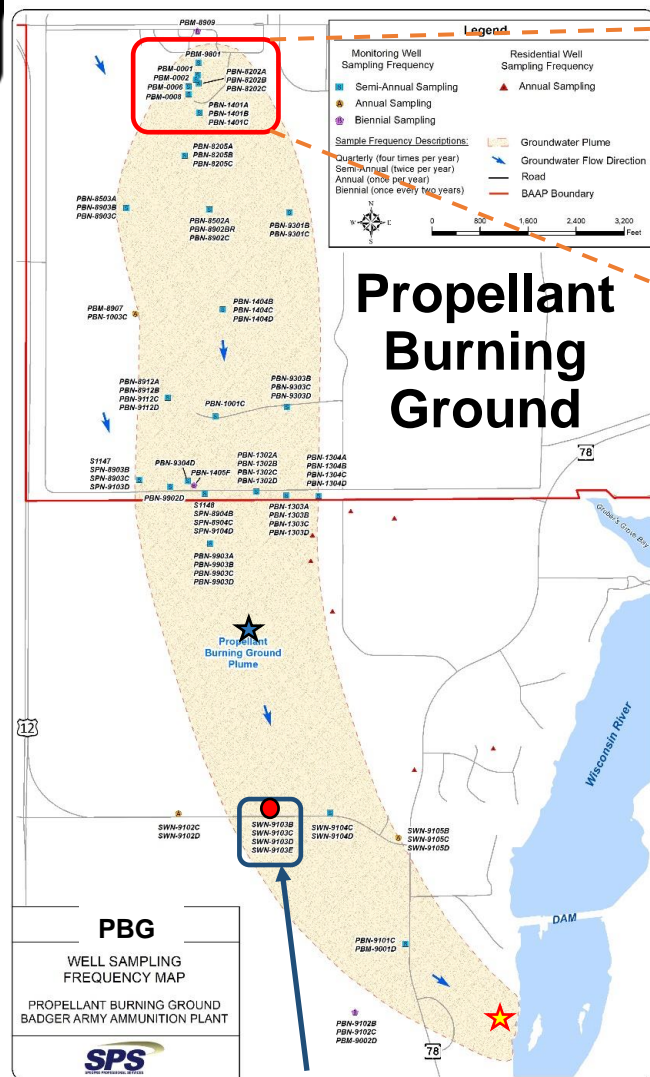
Monitoring Well Operations





Groundwater Sampling Results (Spring 2023)

UNCLASSIFIED//FOUO



DNT concentrations in the source area (Waste Pits) fluctuate with groundwater dropping 7 feet from 2020 to 2023. The DNT results prior to 2023 were consistently closer to 1.0 ug/l in wells where an increase occurred.

Increases		
Well	2022 (µg/l)	2023 (µg/l)
PBM-0006	1.0	10.4
PBN-8202C	0.8	10.7
PBN-1401 A	0.327	0.954
PBN-1401 B	0.386	0.567
PBN-1401 C	0.041	0.573
Decreases		
Well	2022 (µg/l)	2023 (µg/l)
PBM-0001	280.259	9.998
PBM-9801	0.95	0.857
PBN-8202 A	16.372	1.128
PBN-8202 B	26.333	3.775

Ethyl Ether			
Well	2022 (µg/l)	2023 (µg/l)	NR 140 ES (µg/l)
SWN-9103D	9.7	1,200	1,000

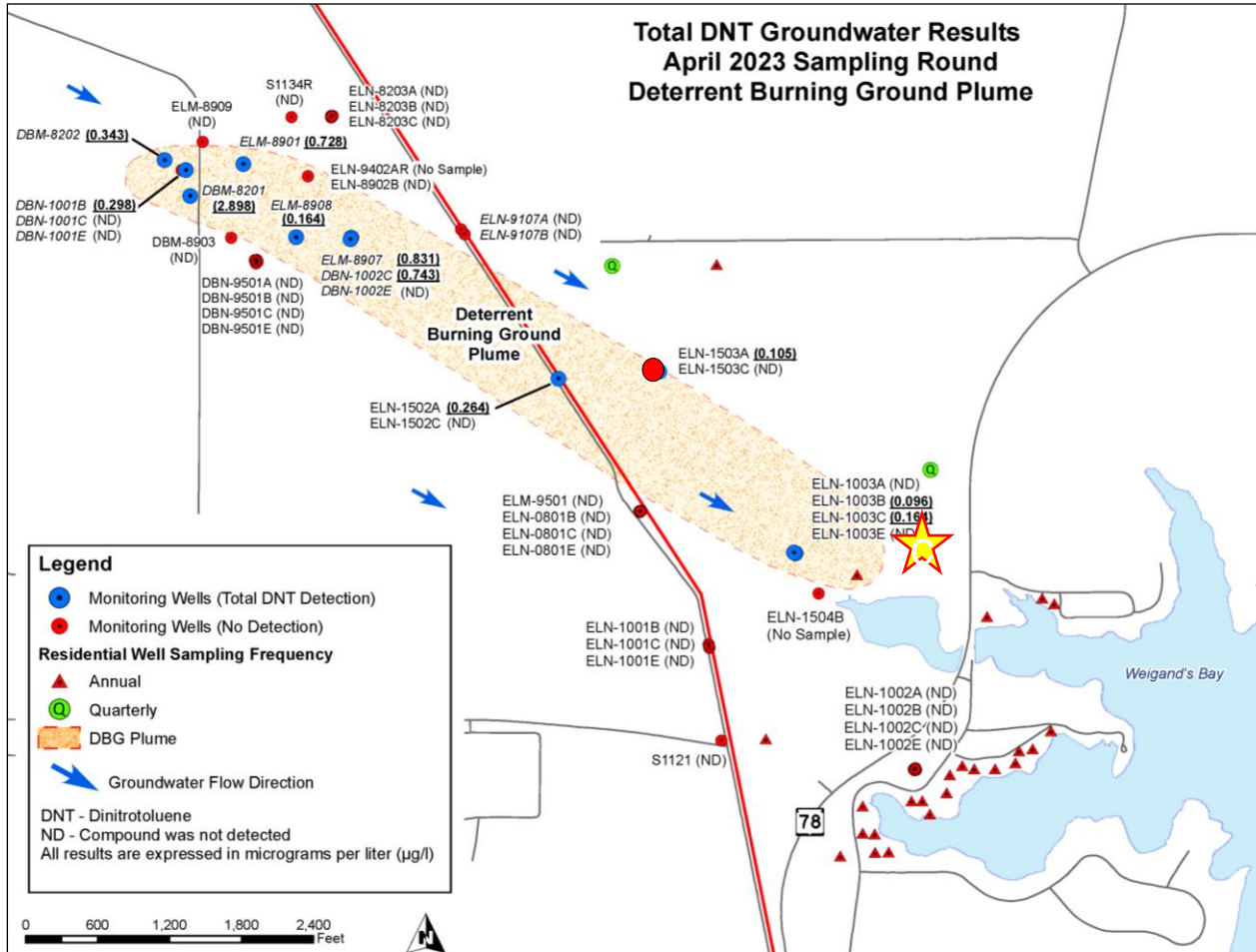
- ★ Completed 3 new wells.
- ★ Proposed new well locations (3).





Groundwater Sampling Results (Spring 2023)

Deterrent Burning Ground



- On-site Dinitrotoluene (DNT) concentrations have decreased past 6 years.
- Off-site DNT concentrations have increased past 6 years.
- DNT in **ELN-1503A** above NR 140 ES in April 2023.
- DBG Plume limits have expanded eastward.
- The Army will assess the current data for potentially installing additional wells off-site to define plume.
- ★ Proposed well locations (2) (2023).

Dinitrotoluene Groundwater Standard
(NR 140 ES) = 0.05 µg/l





Gruber's Grove Bay Sediment RI Update

Gruber's Grove Bay (GGB) Desktop Supplemental Remedial Investigation (RI)

- Draft Report issued to the Army for review on April 12, 2023.
- Army provided comments on May 5, 2023.
- The Army and consultant met with WDNR on May 25, 2023.
- The draft report addressing Army comments was issued on June 23, 2023.
- Supplemental Draft RI issued to WDNR week of July 17, 2023.
 - The RAB will be provided findings and data information once WDNR has had an opportunity to review the Supplemental Draft RI – likely at the October RAB meeting.





Project Management Updates

Proposed Plan (PP) for the Site-Wide Groundwater

- Strategy is to install injection wells for placement of emulsified vegetable oil (EVO) at numerous locations along the plumes to reduce the groundwater concentrations of both volatile organic compounds (VOCs) and DNT.
- Army received comments to the PP from the WDNR on June 2.
- The Army met with WDNR on July 7 to discuss preliminary responses to comments.
- The Draft Final PP will be issued for final review to WDNR.
- Once reviewed and accepted by WDNR, notification for a 60 days public review will be issued.

2nd Five-Year Review (FYR)

- Draft FYR was delivered to US Army Corps of Engineers Environmental and Munitions Center of Excellence on June 20 for review.
- Delivery date for the Final FYR available to the RAB and public is expected to be early November 2023.

Community Involvement Plan (CIP)

- The Final CIP was submitted to the Army on May 18, 2023.
- The CIP was posted on the Badger Army Ammunition Plant website (<https://aec.army.mil/index.php/baap>) on June 12, 2023.
- The CIP is to be reviewed for updates on a yearly basis.





Project Management Updates

Key FY23 Contracting Actions

- **Settling Pond Expanded Site Inspection**
 - Includes Final Creek, Settling Ponds 1 & 3, & Spoils Disposal Areas I, II, III, IV, & V.
 - Site-Wide Groundwater Monitoring Plan.
 - Project anticipated to be awarded in Summer 2023.
 - The Mission Installation Contracting Command (MICC) is currently processing the contract for award.
- **PFAS Remedial Investigation for Propellant Burning Ground**
 - The draft contract documents for the PFAS work has been completed and under internal review by the USAEC.
 - The PFAS RI contract is planned for a FY24 award.
- **Landfill #5 - Repair of Settled Areas**
 - The Army anticipate the contract modification be awarded in July 2023 for the repair of Landfill #5.
 - Repairs to Landfill #5 anticipated to begin late summer or early fall 2023.





Project Management Updates

Badger Army Ammunition Plant Groundwater Remediation: Article Publication

- Article focus is the groundwater remediation work at BAAP and progress of Army's cleanup.
- Requested by the RAB.
- USGS and a RAB member were interviewed for article.
- Article was submitted to the following outlets on April 25, 2023:
 - a) Wisconsin State Journal
 - b) Baraboo News Republic
 - c) Portage Daily Register
 - d) Sauk Prairie Eagle
 - e) Sauk Prairie Star
 - f) Lodi Enterprise-Poynette Press
 - g) Dear Neighbors
 - h) U.S. Army (<https://www.army.mil/article/266071>)





Future meetings

- **Future Meetings**

- Agenda Items

- Dates

- October 19, 2023

- January 18, 2024

- April 18, 2024

- July 18, 2024





Questions??

Public Comments

Closing Remarks



Reese, Staber W., October 8, 1952, search.library.wisc.edu

