

Badger Army Ammunition Plant Groundwater Monitoring Status

Joel Janssen

SpecPro Professional Services, LLC

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Groundwater Contamination

- **Four (4) plumes of groundwater contamination**
- **Central Plume**
- **Deterrent Burning Ground Plume**
- **Propellant Burning Ground Plume**
- **Nitrocellulose Production Area Plume**

**Figure 2C
Central Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant**

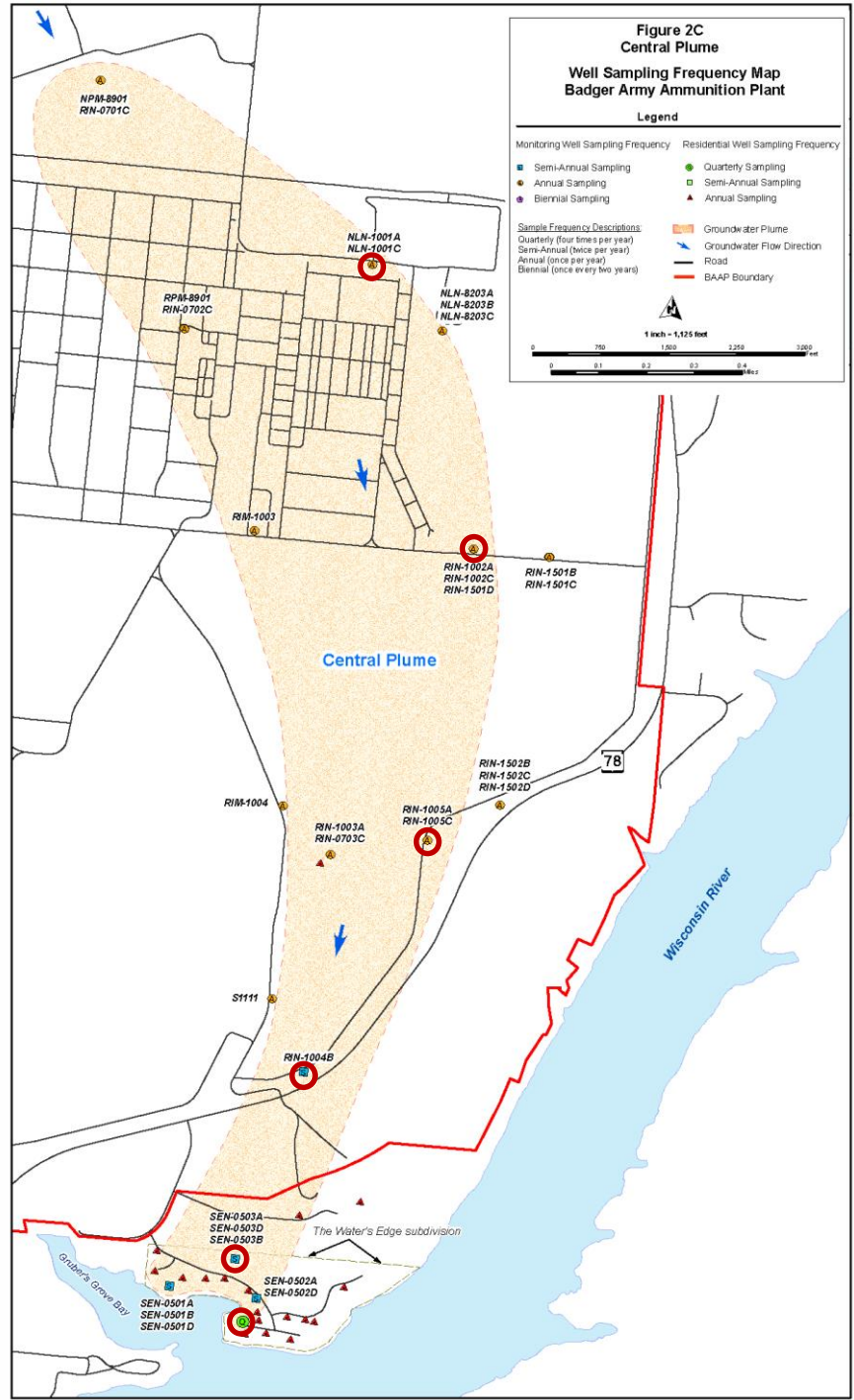
Legend

Monitoring Well Sampling Frequency	Residential Well Sampling Frequency
■ Semi-Annual Sampling	● Quarterly Sampling
● Annual Sampling	□ Semi-Annual Sampling
● Biennial Sampling	▲ Annual Sampling

Symbol Frequency Descriptions:
 Quarterly (four times per year)
 Semi-Annual (twice per year)
 Annual (once per year)
 Biennial (once every two years)

■ Groundwater Plume
→ Groundwater Flow Direction
— Road
— BAAP Boundary

1 inch = 1,125 feet



Groundwater Summary - 2018

Central Plume

On July 11, 2018, the Army laboratory validated results indicating levels of 2,6-DNT of 62 parts per trillion (ppt) in a private drinking water well. The Wisconsin Enforcement Standards (ES) for 2,6-DNT is 50 ppt. The Army has coordinated with the Wisconsin Department of Natural Resources (WDNR), notified the homeowner on 10 July and offered bottled water while we conduct further sampling and assess what actions may be needed. The Army will continue to coordinate with WDNR in collecting additional data and assessing next steps to ensure protection of human health.

- Well located in Water's Edge subdivision on WI River
- Private well has history of 2,6-DNT detections
- Army has been sampling well quarterly since 2008
- Army resampled well in July 2018 – results pending
- All 17 wells in Water's Edge will be sampled August 2018
- Six (6) monitoring wells had 2,6-DNT > ES in June 2018

**Figure 2C
Central Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant**

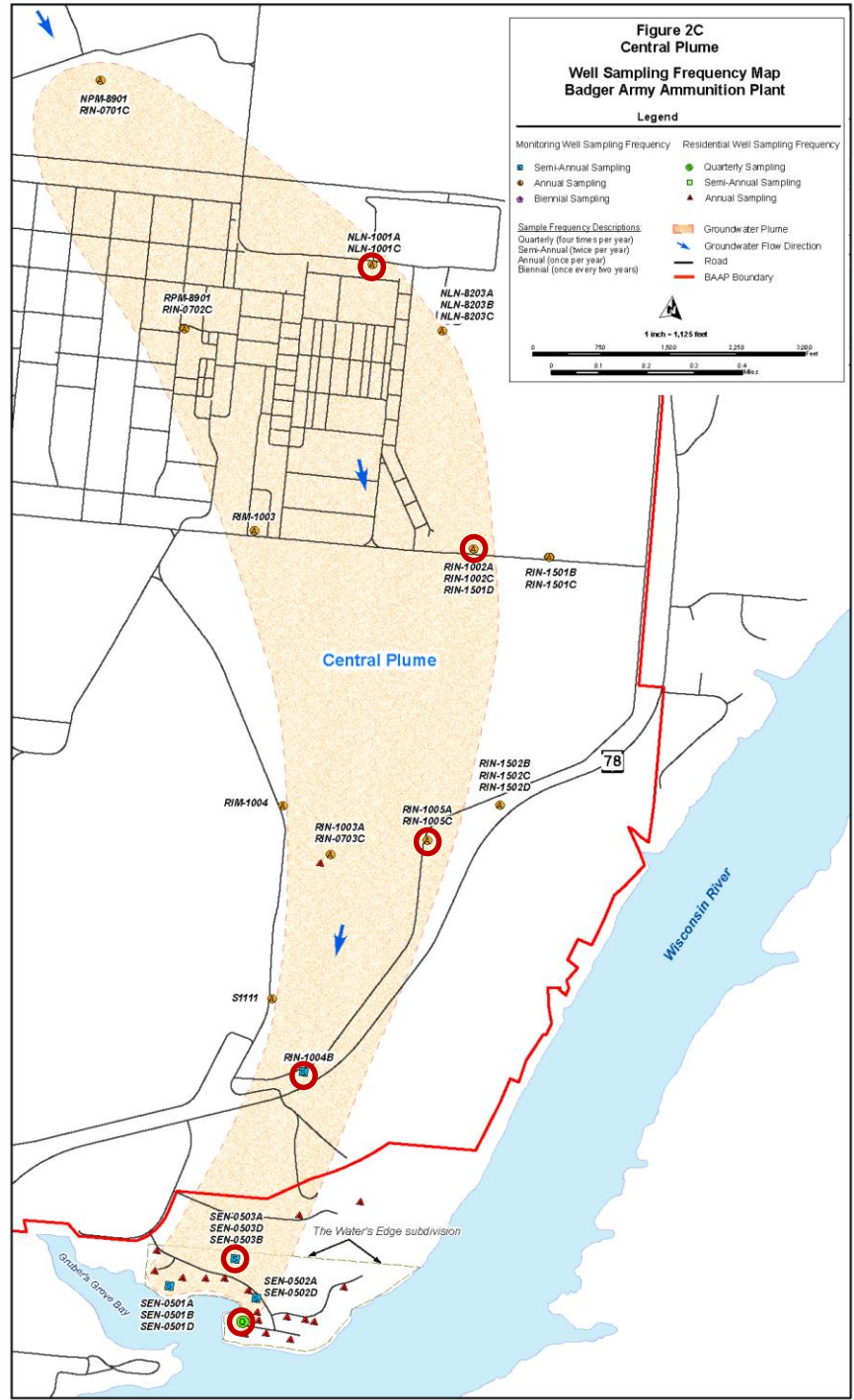
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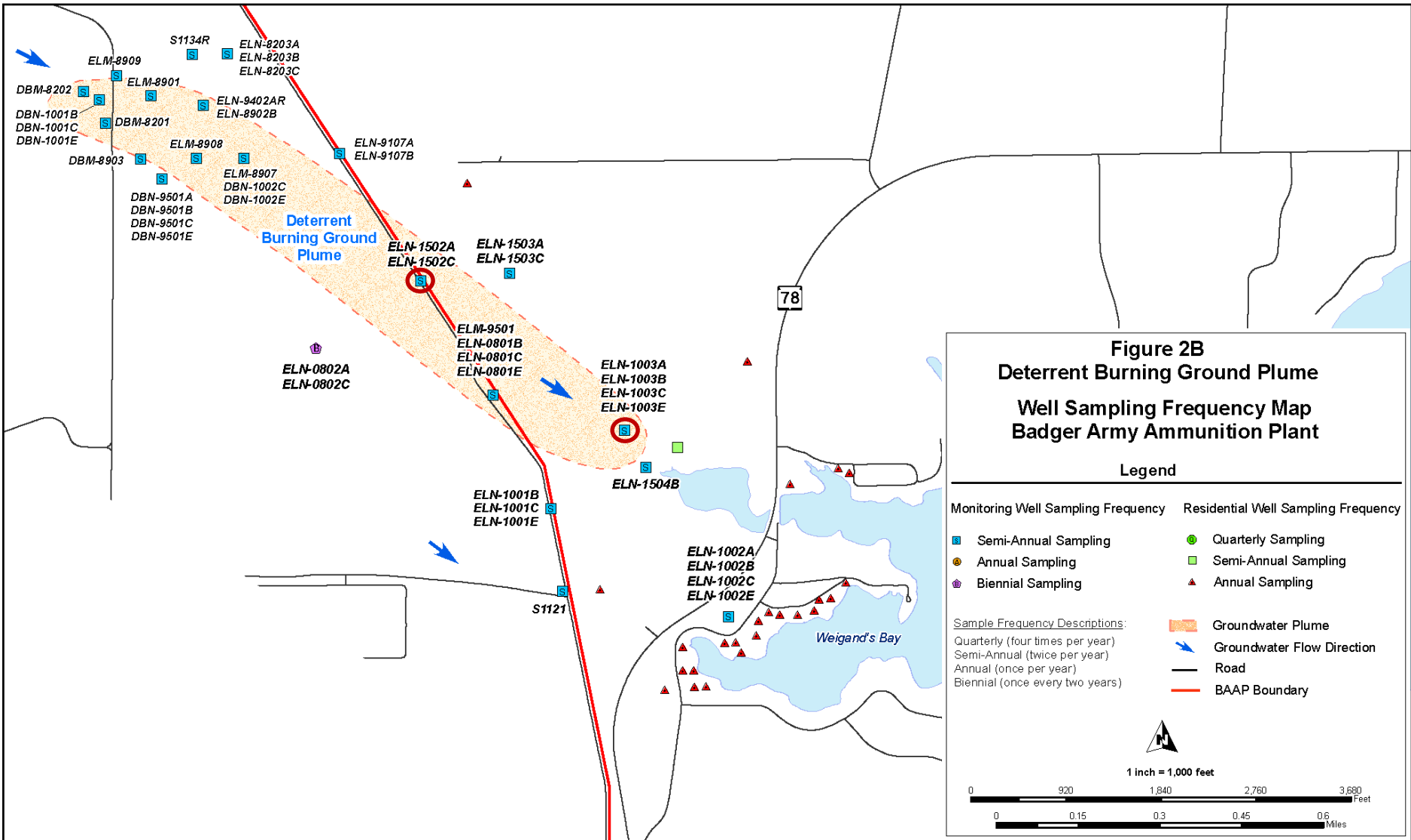


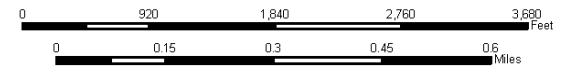
Figure 2B
Deterrent Burning Ground Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant

Legend

- | Monitoring Well Sampling Frequency | Residential Well Sampling Frequency |
|--|--|
| Semi-Annual Sampling | Quarterly Sampling |
| Annual Sampling | Semi-Annual Sampling |
| Biennial Sampling | Annual Sampling |
| Sample Frequency Descriptions:
Quarterly (four times per year)
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Groundwater Flow Direction
Road
BAAP Boundary |



1 inch = 1,000 feet



Groundwater Summary - 2018

Deterrent Burning Ground Plume

- DNT decreasing overall in plume
- DNT increasing towards off-site
- **No private wells with DNT detections**
- DNT in ELN-1502A increasing since 2015
- DNT in ELN-1003B/C increasing since 2015
- Army will increase sampling frequency off-site
 - *Five (5) monitoring wells to Quarterly*
 - *One (1) private well to Quarterly*
- Army will sample 25 private wells in August 2018

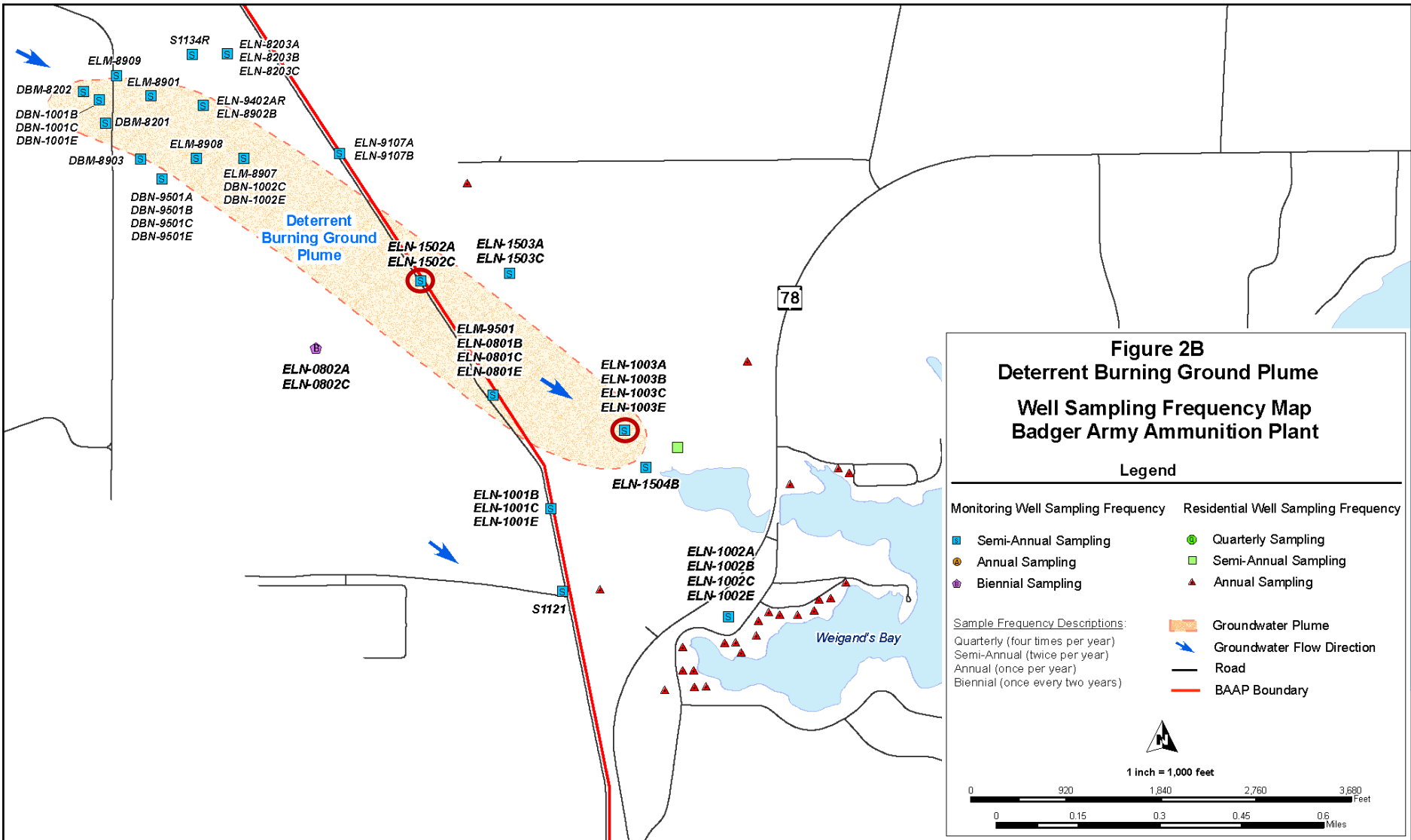


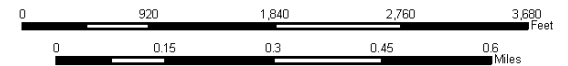
Figure 2B
Deterrent Burning Ground Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant

Legend

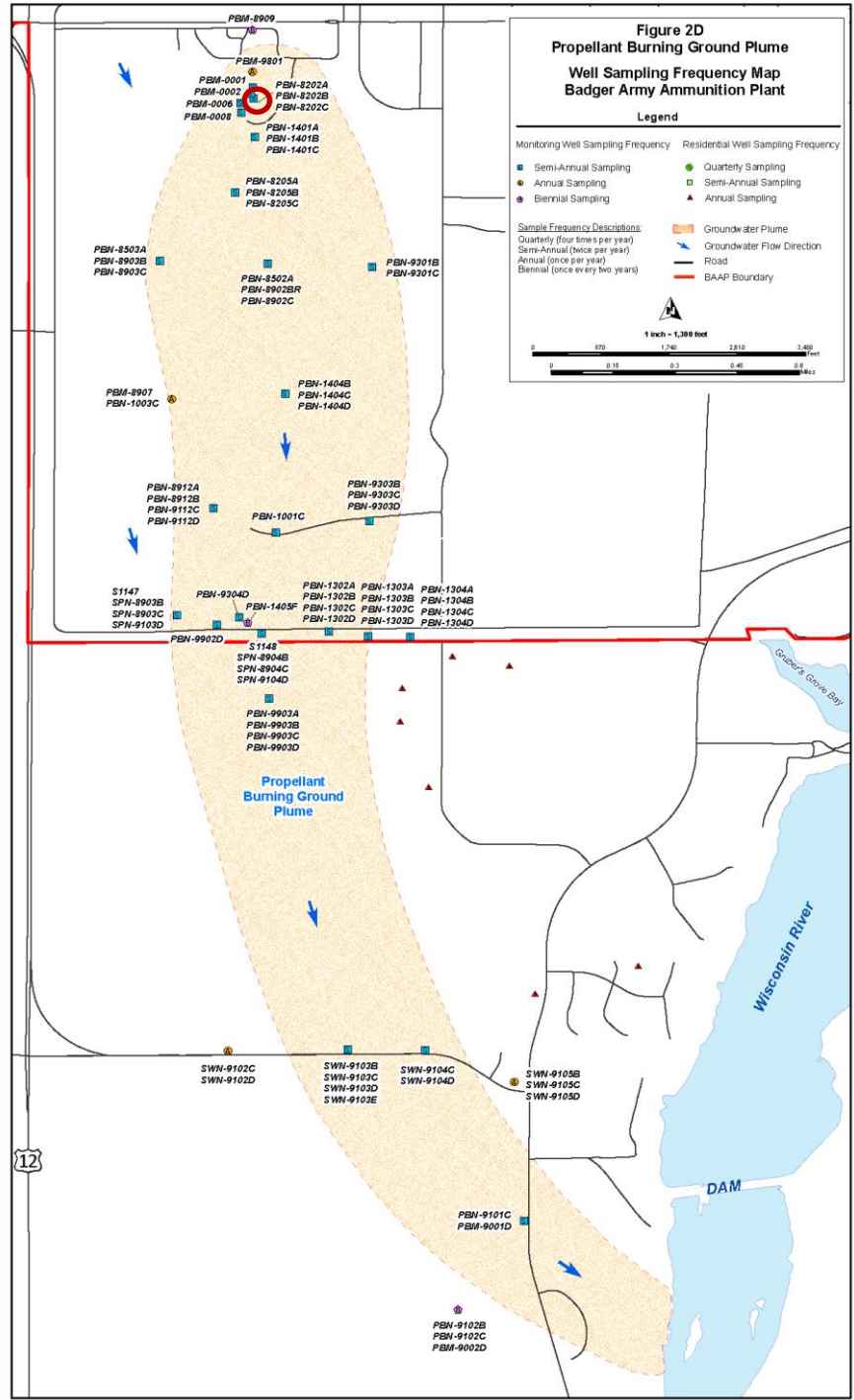
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**Figure 2D
Propellant Burning Ground Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant**

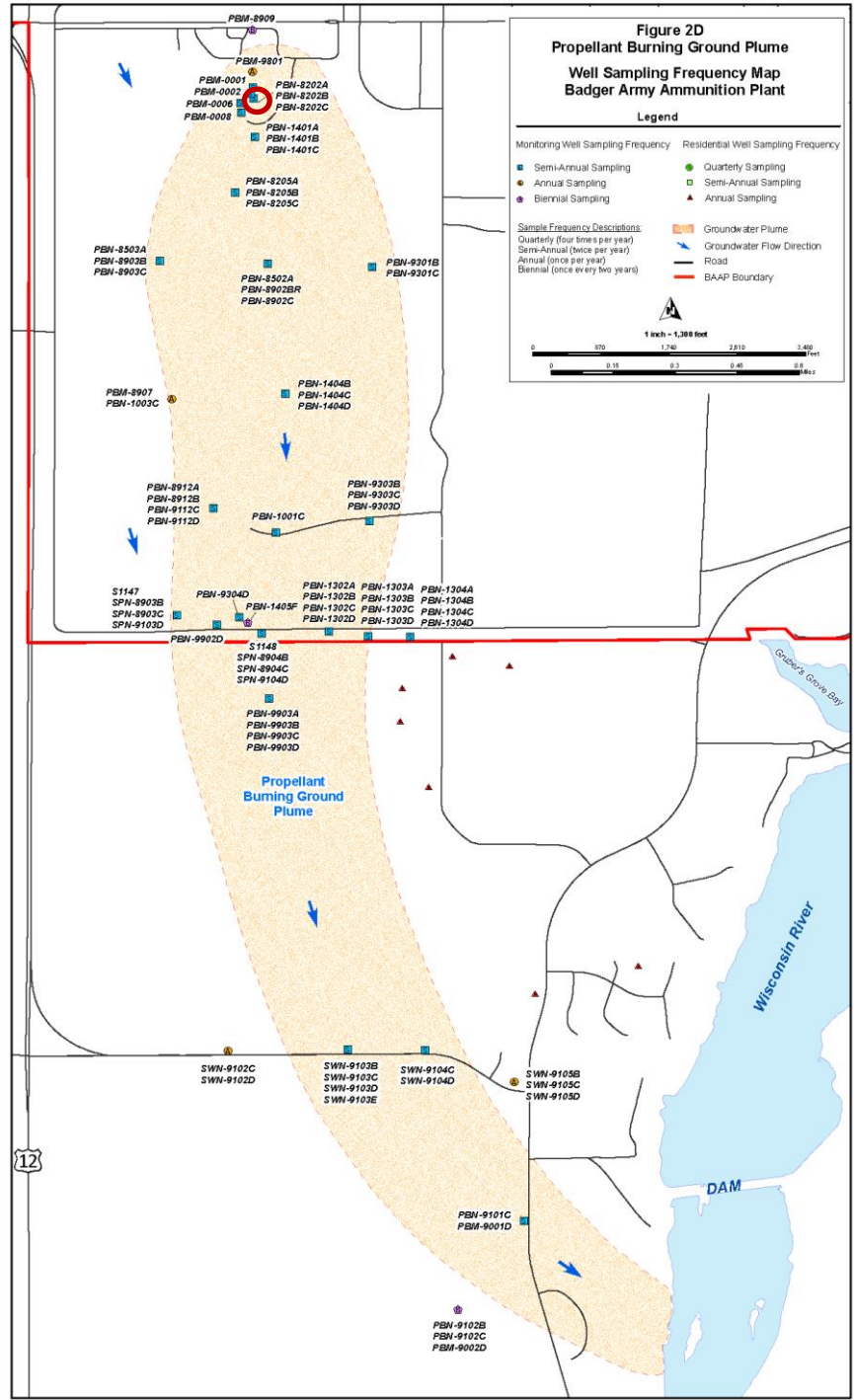


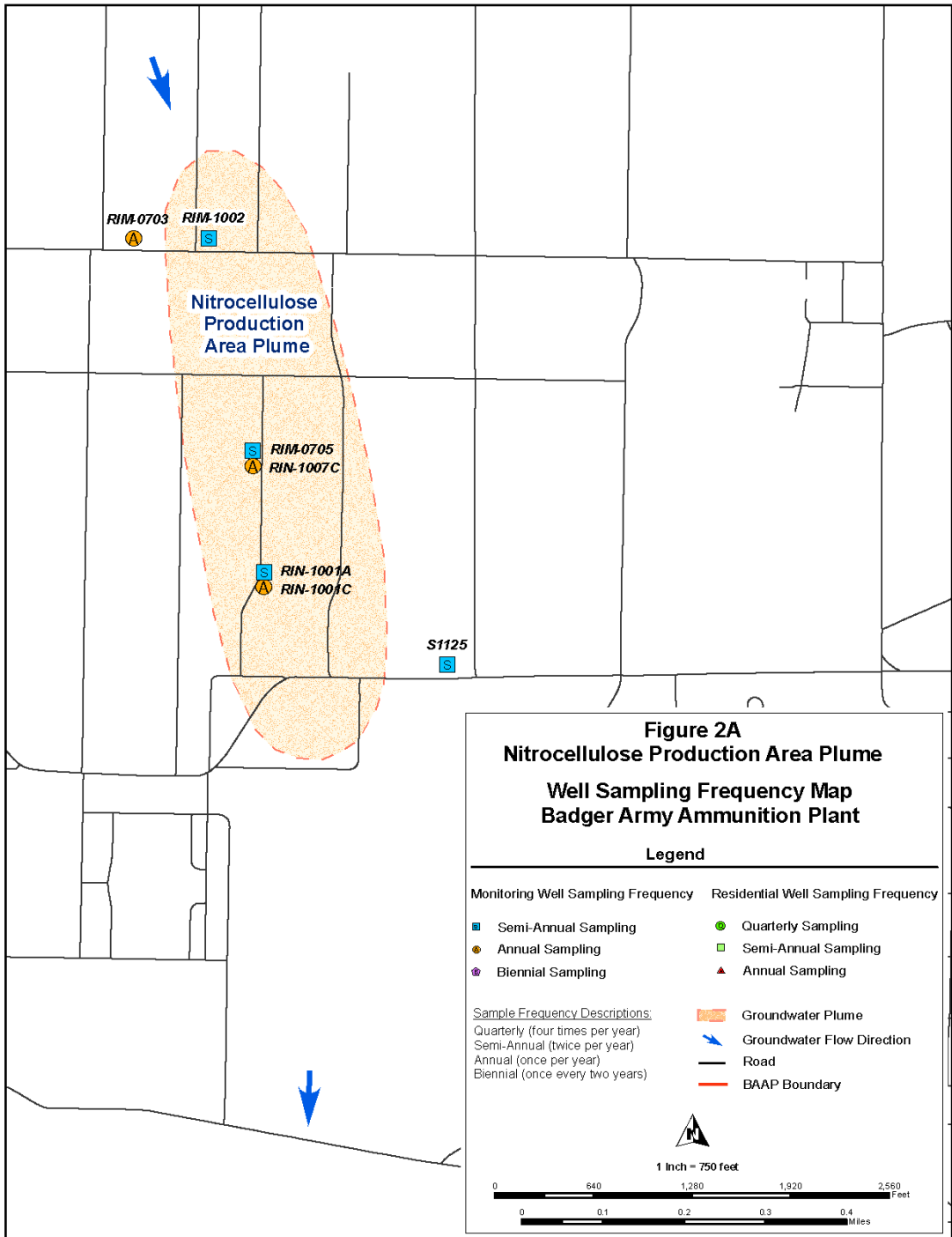
Groundwater Summary - 2018

Propellant Burning Ground Plume

- DNT & VOC concentrations stable/decreasing overall
- Operated groundwater pump and treat systems
- **No private wells with ES exceedances**
- DNT in PBN-8202A increased in 2018
- PBN-8202A located next to cap (source area)
- Army will sample 3 additional monitoring wells – Sept 2018 to evaluate DNT near PBN-8202A
- Army will sample 7 private wells in August 2018

**Figure 2D
Propellant Burning Ground Plume
Well Sampling Frequency Map
Badger Army Ammunition Plant**





Groundwater Summary - 2018

Nitrocellulose Production Area Plume

- DNT stable or decreasing overall in plume
- **No private wells near plume**
- Monitoring wells sampled semi-annually

