



DEPARTMENT OF THE ARMY
BADGER ARMY AMMUNITION PLANT
S7273 BLUFF ROAD
MERRIMAC, WISCONSIN 53561

December 18, 2017

SUBJECT: Submittal of November 2017 Monitoring Well and Residential Well Groundwater Data
Badger Army Ammunition Plant

Mr. Jason Lowery
Wisconsin Department of Natural Resources
GEF2 Central Office
PO Box 7921
Madison, WI 53707-7921

Dear Mr. Lowery:

Enclosed is the Badger Army Ammunition Plant (BAAP) November 2017 Monitoring Well and Residential Well Groundwater Data. This was a semi-annual and quarterly sampling event. SpecPro Professional Services, LLC (SPS) collected groundwater samples from nine monitoring wells and one residential well associated with the Central Plume. The enclosed files contain the signed Environmental Monitoring Data Certification Forms, a list of wells sampled, a map showing the well locations, residential well lab results summary spreadsheet, and residential well lab results. Per previous discussions, the Army understands that the WDNR will be mailing the results to each residential well owner.

Based on the WDNR *Groundwater Sampling Program Modification Approval* letter dated July 15, 2016, nine monitoring wells associated with the Central Plume were sampled during November 2017. The WDNR requested that the sampling frequency of RIN-1004B be increased from annually to semi-annually. The WDNR approved the reduction of sampling frequency of SEN-0501 A, B & D, SEN-0502 A & D, and SEN-0503 A, B & D from quarterly to semi-annually.

Dinitrotoluene (DNT) was not detected in the one residential well (WE-UK124) sampled. 2,6-DNT and total DNT have been routinely detected in WE-UK124.

Monitoring well SEN-0503B was sampled on November 15, 2017 for volatile organic compounds (VOC) to evaluate recent detections of benzene and petroleum compounds. No benzene or petroleum compounds were detected in SEN-0503B or the other seven monitoring wells in the Water's Edge Subdivision.

SPS conducted an internal quality control review of the groundwater data. The internal review did not find any issues with the groundwater data. All groundwater samples were analyzed by CT Laboratories, LLC (CT Lab) in Baraboo, Wisconsin. CT Lab is a WDNR Chapter NR 149 certified laboratory and accredited by the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP).

Please do not hesitate to contact me at 608-434-5374 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Sitton', with a large, stylized flourish at the end.

Robert M. Sitton
Commander's Representative

Enclosure

Copy furn: Roger Walton, Contracting Officer's Representative

Notice: Personally identifiable information collected will be used for program administration and enforcement purposes. The Department may also provide this information to requesters as required under Wisconsin's Open Records law, ss. 19.31 to 19.39, Wis. Stats. When submitting monitoring data, the owner or operator of the facility, practice or activity is required to notify the Department in writing that a groundwater standard or an explosive gas level has been attained or exceeded, as specified in ss. NR 140.24(1)(a); NR 140.26(1)(a); NR 507.30NR 635.14(9)(a); NR 635.18(20) and NR 507.30, Wis. Adm. Code. Failure to report may result in fines, forfeitures or other penalties resulting from enforcement under ss. 289.97, 291.97 or 299.95, Wis. Stats.

Instructions:

- Prepare one form for each license or monitoring ID.
- Please type or print legibly.
- Attach a notification of any values that attain or exceed groundwater standards (that is, preventive action limits, enforcement standards or alternative concentration limits). The notification must include a preliminary analysis of the cause and significance of each value.
- Attach a notification of any gas values that attain or exceed explosive gas levels.
- Send the original signed form, any notification, and Electronic Data Deliverable [EDD] to:

GEMS Data Submittal Contact - WA/5
Bureau of Waste Management
Wisconsin Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921

Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen

Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Nitroglycerine Pond/Rocket Paste Area	03487	157005530	11/15/17

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

November 2017

Type of Data Submitted (Check all that apply)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Groundwater monitoring data from monitoring wells | <input type="checkbox"/> Gas monitoring data |
| <input type="checkbox"/> Groundwater monitoring data from private water supply wells | <input type="checkbox"/> Air monitoring data |
| <input type="checkbox"/> Leachate monitoring data | <input type="checkbox"/> Other (specify) |

Notification attached?

- No. No groundwater standards or explosive gas limits were exceeded.
- Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.
- Yes, a notification of values exceeding an explosive gas limit is attached. It includes the monitoring points, dates, sample values and explosive gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards.

Joel Janssen

Project Manager

(608) 438-1110

Facility Representative Name (Print)

Title

(Area Code) Telephone No.

Signature

Date

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

Found uploading problems on _____ Initials _____

Notified contact of problems on _____ Uploaded data successfully on _____

EDD format(s): Diskette CD (Initial submittal and follow-up) E-mail (follow-up only) Other

Case Narrative
Groundwater Monitoring
License Number 3487
Nitroglycerine Pond/Rocket Paste Area
November 2017
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. One well was sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Central Plume.

No compounds were detected in RIN-1004B (498).

DNT analysis was performed by CT Laboratories using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

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Bureau of Waste Management
Wisconsin Department of Natural Resources
101 South Webster Street
Madison WI 53707-7921

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Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen

Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Off-Site Residential Wells	03497	157005530	11/15/17

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

November 2017

Type of Data Submitted (Check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Groundwater monitoring data from monitoring wells | <input type="checkbox"/> Gas monitoring data |
| <input checked="" type="checkbox"/> Groundwater monitoring data from private water supply wells | <input type="checkbox"/> Air monitoring data |
| <input type="checkbox"/> Leachate monitoring data | <input type="checkbox"/> Other (specify) |

Notification attached?

- No. No groundwater standards or explosive gas limits were exceeded.
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Joel Janssen

Project Manager

(608) 438-1110

Facility Representative Name (Print)

Title

(Area Code) Telephone No.

Signature Joel Janssen

Date 12/18/17

FOR DNR USE ONLY. Check action taken, and record date and your initials. Describe on back side if necessary.

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EDD format(s): Diskette CD (Initial submittal and follow-up) E-mail (follow-up only) Other

Case Narrative
Groundwater Monitoring
License Number 3497
Off-Site Residential Wells
November 2017
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. One residential well was sampled during this round.

No compounds were detected in WE-UK124 (432).

DNT analysis was also performed by CT Laboratories using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

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Name of entity submitting data (laboratory, consultant, facility owner):

SpecPro Professional Services - Badger Army Ammunition Plant

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Joel Janssen

Phone: (608) 438-1110

E-mail: Joel.Janssen@SpecProSvcs.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Southeast Area	04330	157005530	11/15/17

The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

November 2017

Type of Data Submitted (Check all that apply)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Groundwater monitoring data from monitoring wells | <input type="checkbox"/> Gas monitoring data |
| <input type="checkbox"/> Groundwater monitoring data from private water supply wells | <input type="checkbox"/> Air monitoring data |
| <input type="checkbox"/> Leachate monitoring data | <input type="checkbox"/> Other (specify) |

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Joel Janssen

Project Manager

(608) 438-1110

Facility Representative Name (Print)

Title

(Area Code) Telephone No.

Signature

Date

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SpecPro Professional Services, LLC

Badger Army Ammunition Plant

GROUNDWATER MONITORING EXCEEDANCE REPORT

November 2017

Report Date: 12/18/2017

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Chloroform	4330	581	SEN-0501B	11/15/2017	1	0.68	ug/l	0.6	6
Chloroform	4330	582	SEN-0501D	11/15/2017	1	1.1	ug/l	0.6	6
2,6-Dinitrotoluene	4330	586	SEN-0503B	11/15/2017	1	0.0076	ug/l	0.005	0.05
Total Dinitrotoluenes	4330	586	SEN-0503B	11/15/2017	1	0.0076	ug/l	0.005	0.05
Chloroform	4330	587	SEN-0503D	11/15/2017	1	0.99	ug/l	0.6	6

SpecPro Professional Services, LLC

Badger Army Ammunition Plant

November 2017

GROUNDWATER MONITORING ALL HITS REPORT

License No: 4330

Report Date: 12/18/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Chloroform	580	SEN-0501A	11/15/2017	1	0.26	0.1	0.2	ug/l	0.6	6
Chloroform	581	SEN-0501B	11/15/2017	1	0.68	0.1	0.2	ug/l	0.6	6
Chloroform	582	SEN-0501D	11/15/2017	1	1.1	0.1	0.2	ug/l	0.6	6
Chloroform	584	SEN-0502D	11/15/2017	1	0.53	0.1	0.2	ug/l	0.6	6
2,6-Dinitrotoluene	586	SEN-0503B	11/15/2017	1	0.0076	0.004	0.03	ug/l	0.005	0.05
Chloroform	586	SEN-0503B	11/15/2017	1	0.17	0.1	0.2	ug/l	0.6	6
Chloroform	586	SEN-0503B	11/15/2017	2	0.16	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	586	SEN-0503B	11/15/2017	1	0.0076	0.004	0.03	ug/l	0.005	0.05
Chloroform	587	SEN-0503D	11/15/2017	1	0.99	0.1	0.2	ug/l	0.6	6

Case Narrative
Groundwater Monitoring
License Number 4330
Southeast Area
November 2017
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Eight wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Central Plume. All eight monitoring wells are located in the Water's Edge Subdivision on Gruber's Grove Bay.

2,6-DNT and total DNT exceeded the Preventive Action Limit (PAL) in SEN-0503B (586).

Chloroform exceeded the PAL in SEN-0501B (581), SEN-0501D (582), and SEN-0503D (587).

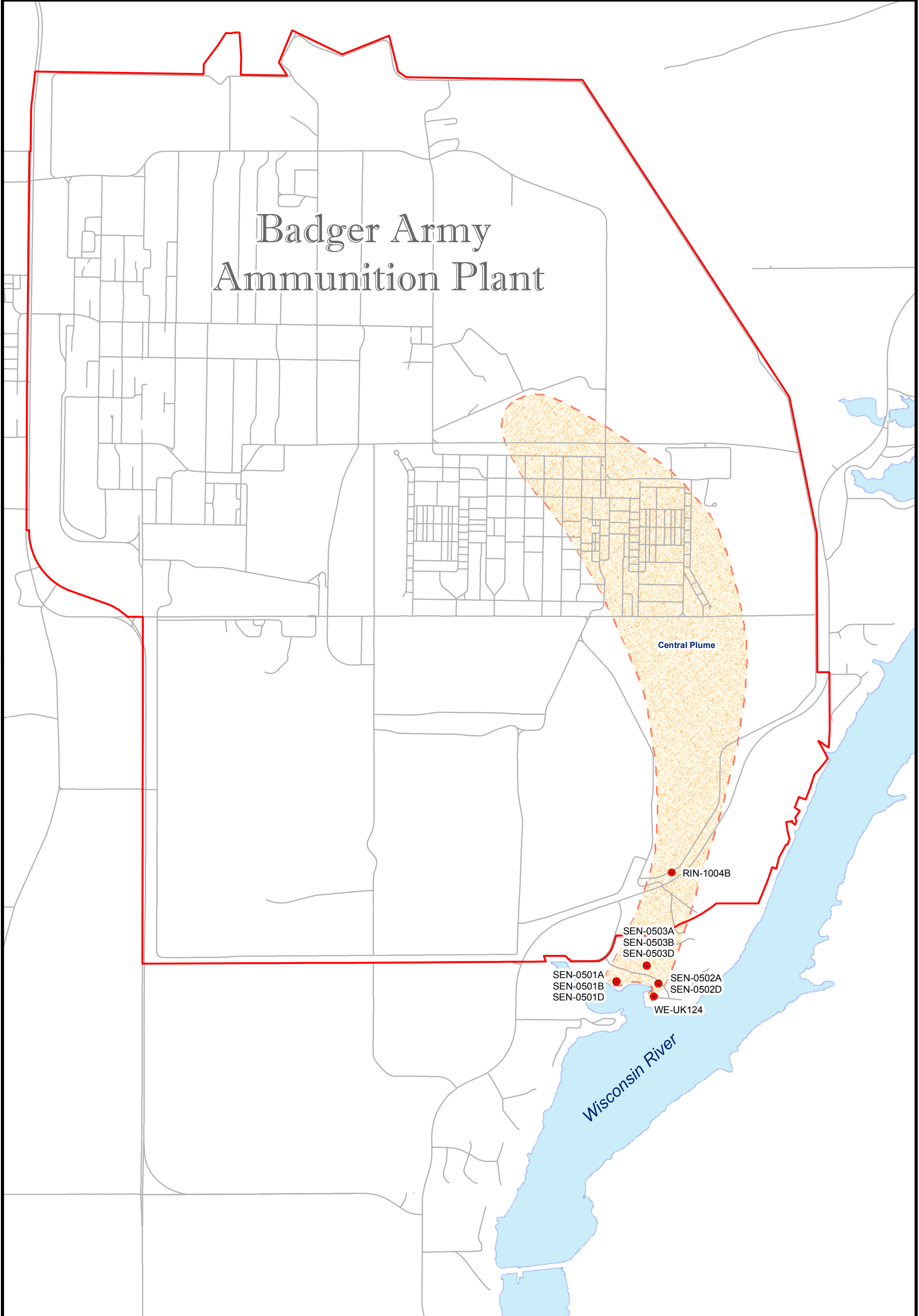
Volatile organic compounds (VOCs) analysis was performed by CT Laboratories (CT Lab) using method SW 846 8260C.

DNT analysis was performed by CT Lab using method SW 8270D SIM. The following DNT isomers were reported: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT, and 3,5-DNT.

November 2017
Badger Army Ammunition Plant
Sampled Wells List

<u>License Area</u>	<u>Well ID</u>	<u>Reporting Name</u>	<u>Date</u>
3487	498	RIN-1004B	11/15/17
3497	432	WE-UJ124	11/15/17
4330	580	SEN-0501A	11/15/17
4330	581	SEN-0501B	11/15/17
4330	582	SEN-0501D	11/15/17
4330	583	SEN-0502A	11/15/17
4330	584	SEN-0502D	11/15/17
4330	585	SEN-0503A	11/15/17
4330	586	SEN-0503B	11/15/17
4330	587	SEN-0503D	11/15/17

Badger Army Ammunition Plant



November 2017 Sampled Wells Badger Army Ammunition Plant

- Sampled Well
- Groundwater Plume



Plot Date: 11/12/17