



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

October 24, 2017

SUBJECT: Submittal of September 2017 Monitoring 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) September 2017 Monitoring Well Groundwater Data. This was a semi-annual sampling event. SpecPro Professional Services, LLC (SPS) collected groundwater samples from 127 monitoring wells associated with the Central Plume, Deterrent Burning Ground Plume, Nitrocellulose Production Area Plume, and Propellant Burning Ground Plume. The enclosed files contain the signed Environmental Monitoring Data Certification Forms, a list of wells sampled, and a map showing the well locations.

Monitoring well SEN-0503B was sampled on August 29, 2017 for volatile organic compounds (VOC) to evaluate recent detections of benzene and petroleum compounds. SEN-0503B is in the Water's Edge Subdivision and associated with the Central Plume. No benzene or petroleum compounds were detected in SEN-0503B. SEN-0503B will be sampled again for VOCs during November 2017 along with the other seven monitoring wells in the Water's Edge Subdivision.

Based on the WDNR *2014 Monitoring Well Optimization Plan* email approval dated May 27, 2014, 45 monitoring wells associated with the Deterrent Burning Ground (DBG) Plume were sampled during September 2017. The groundwater results indicate that dinitrotoluene (DNT) concentrations in the DBG Plume have continued to decrease over the past year except in monitoring well ELN-1502A. The total DNT concentration in ELN-1502A increased from 0.195 micrograms per liter ( $\mu\text{g/l}$ ) during September 2016 to 0.492  $\mu\text{g/l}$  during September 2017. ELN-1502A is located at the eastern plant boundary and will be sampled again during April 2018.

Per the WDNR's October 3, 2014 request, we have included DNT groundwater data from seven (7) wells located near the former DNT Screen House. These monitoring wells help define the extents of DNT in the Nitrocellulose Production Area Plume. The groundwater results indicate that DNT concentrations in this area have decreased since September 2015.

Based on the WDNR *Propellant Burning Ground Monitoring Requirements* dated January 5, 2015, 74 monitoring wells associated with the Propellant Burning Ground (PBG) Plume were sampled during September 2017. The groundwater results indicate that VOC concentrations in the PBG Plume were relatively unchanged since September 2016. DNT concentrations near the PBG source areas have

continued to decrease over the past year. DNT concentrations downgradient of the PBG were relatively unchanged since September 2016.

SPS conducted an internal quality control review of the groundwater data. The internal review did find that the field duplicate precision for chloroethane analysis exceeded limits for sample PBN-1303B and PBN-1303B (field duplicate). Chloroethane was detected in the field duplicate sample but was not detected in the original sample. No action was taken but future chloroethane results will be evaluated.

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', enclosed within a large, loopy circular flourish.

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@SpecProSvc.com

Facility name:	License # / Monitoring ID	Facility ID [ FID ]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Landfill #5	02813	157005530	9/5 - 9/12/17

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

September 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 2813  
Landfill #5  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

Total dinitrotoluenes (DNT) exceeded the Enforcement Standard (ES) in ELM-8901 (216), ELM-8907 (220), ELM-8908 (221), ELN-1003B (468), and ELN-1502A (533).

Total DNT exceeded the Preventive Action Limit (PAL) in ELN-0801B (455). 2,6-DNT exceeded the PAL in ELM-8901 (216).

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.

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
2,6-Dinitrotoluene	2813	216	ELM-8901	9/6/2017	1	0.027	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	216	ELM-8901	9/6/2017	1	1.187	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	220	ELM-8907	9/6/2017	1	0.288	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	221	ELM-8908	9/6/2017	1	1.17	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	221	ELM-8908	9/6/2017	2	0.765	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	455	ELN-0801B	9/5/2017	1	0.024	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	468	ELN-1003B	9/12/2017	1	0.068	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	533	ELN-1502A	9/5/2017	1	0.433	ug/l	0.005	0.05
Total Dinitrotoluenes	2813	533	ELN-1502A	9/5/2017	2	0.492	ug/l	0.005	0.05

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 2813

Report Date: 10/17/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,3-Dinitrotoluene	216	ELM-8901	9/6/2017	1	0.54	0.0061	0.031	ug/l		
2,6-Dinitrotoluene	216	ELM-8901	9/6/2017	1	0.027	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	216	ELM-8901	9/6/2017	1	0.43	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	216	ELM-8901	9/6/2017	1	0.19	0.0041	0.031	ug/l		
Total Dinitrotoluenes	216	ELM-8901	9/6/2017	1	1.187	0.0082	0.031	ug/l	0.005	0.05
2,3-Dinitrotoluene	220	ELM-8907	9/6/2017	1	0.082	0.006	0.03	ug/l		
3,4-Dinitrotoluene	220	ELM-8907	9/6/2017	1	0.18	0.004	0.03	ug/l		
3,5-Dinitrotoluene	220	ELM-8907	9/6/2017	1	0.026	0.004	0.03	ug/l		
Total Dinitrotoluenes	220	ELM-8907	9/6/2017	1	0.288	0.008	0.03	ug/l	0.005	0.05
2,3-Dinitrotoluene	221	ELM-8908	9/6/2017	1	0.69	0.0064	0.032	ug/l		
2,3-Dinitrotoluene	221	ELM-8908	9/6/2017	2	0.45	0.0062	0.031	ug/l		
3,4-Dinitrotoluene	221	ELM-8908	9/6/2017	1	0.35	0.0043	0.032	ug/l		
3,4-Dinitrotoluene	221	ELM-8908	9/6/2017	2	0.23	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	221	ELM-8908	9/6/2017	2	0.085	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	221	ELM-8908	9/6/2017	1	0.13	0.0043	0.032	ug/l		
Total Dinitrotoluenes	221	ELM-8908	9/6/2017	1	1.17	0.0085	0.032	ug/l	0.005	0.05
Total Dinitrotoluenes	221	ELM-8908	9/6/2017	2	0.765	0.0082	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	455	ELN-0801B	9/5/2017	1	0.024	0.004	0.03	ug/l		
Total Dinitrotoluenes	455	ELN-0801B	9/5/2017	1	0.024	0.0081	0.03	ug/l	0.005	0.05
2,3-Dinitrotoluene	468	ELN-1003B	9/12/2017	1	0.014	0.0061	0.031	ug/l		
3,4-Dinitrotoluene	468	ELN-1003B	9/12/2017	1	0.054	0.0041	0.031	ug/l		
Total Dinitrotoluenes	468	ELN-1003B	9/12/2017	1	0.068	0.0082	0.031	ug/l	0.005	0.05
2,3-Dinitrotoluene	533	ELN-1502A	9/5/2017	2	0.13	0.006	0.03	ug/l		
2,3-Dinitrotoluene	533	ELN-1502A	9/5/2017	1	0.13	0.0061	0.031	ug/l		
3,4-Dinitrotoluene	533	ELN-1502A	9/5/2017	2	0.34	0.004	0.03	ug/l		
3,4-Dinitrotoluene	533	ELN-1502A	9/5/2017	1	0.28	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	533	ELN-1502A	9/5/2017	2	0.022	0.004	0.03	ug/l		
3,5-Dinitrotoluene	533	ELN-1502A	9/5/2017	1	0.023	0.0041	0.031	ug/l		
Total Dinitrotoluenes	533	ELN-1502A	9/5/2017	2	0.492	0.008	0.03	ug/l	0.005	0.05
Total Dinitrotoluenes	533	ELN-1502A	9/5/2017	1	0.433	0.0082	0.031	ug/l	0.005	0.05

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

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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 - Propellant Burning Grounds	02814	157005420	9/11 - 9/20/17

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

September 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?

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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 2814  
Propellant Burning Grounds  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

2,4-Dinitrotoluene (DNT), exceeded the Enforcement Standard (ES) in PBM-9801 (360), PBM-0001 (367), PBM-0002 (368), PBM-0006 (372), PBN-8202A (613), PBN-8202B (614), and PBN-8202C (615). 2,6-DNT exceeded the ES in PBM-9801 (360), PBM-0001 (367), PBM-0002 (368), PBN-8202A (613), and PBN-8202C (615). Total DNT exceeded the ES in PBM-9801 (360), PBM-0001 (367), PBM-0002 (368), PBM-0006 (372), PBM-0008 (374), PBN-8202A (613), PBN-8202B (614), PBN-8202C (615), PBN-8205A (622), PBN-8205B (623), PBN-8205C (624), PBN-1401A (782), and PBN-1401B (783).

2,4-DNT exceeded the Preventive Action Limit (PAL) in PBM-0008 (374), PBN-8205A (622), PBN-8205B (623), PBN-1401A (782), and PBN-1401B (783). 2,6-DNT exceeded the PAL in PBM-0006 (372), PBM-0008 (374), PBN-8202B (614), PBN-8205A (622), PBN-8205B (623), PBN-8902C (645), PBN-9903C (694), PBN-1401A (782), PBN-1401B (783), and PBN-1401C (784). Total DNT exceeded the PAL in PBN-8902C (645), PBN-9112C (665), PBN-9903C (694), and PBN-1401C (784).

Bromodichloromethane exceeded the PAL in three wells.

Carbon tetrachloride exceeded the ES in PBN-8205A (622), PBN-8502A (632), PBN-9903B (693), and PBN-9903C (694). Carbon tetrachloride exceeded the PAL in 20 wells.

Chloroform exceeded the PAL in eight wells.

Ethyl ether exceeded the ES in PBN-9304D (687) and the PAL in PBN-1001C (595) and PBN-1404D (793). Ethyl ether has been routinely detected in all three wells.

Nitrate plus nitrite exceeded the PAL in three wells.

Trichloroethene exceeded the PAL in 12 wells.

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

DNT analysis was also 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.

Nitrate plus nitrite analyses were performed by CT Lab using method SW 353.2.



# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

### GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
2,4-Dinitrotoluene	2814	360	PBM-9801	9/20/2017	1	0.11	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	360	PBM-9801	9/20/2017	1	0.2	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	360	PBM-9801	9/20/2017	1	0.548	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	367	PBM-0001	9/20/2017	1	0.059	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	367	PBM-0001	9/20/2017	1	0.059	ug/l	0.005	0.05
Nitrate + Nitrite-N	2814	367	PBM-0001	9/20/2017	1	4.1	mg/l	2	10
Total Dinitrotoluenes	2814	367	PBM-0001	9/20/2017	1	0.701	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	368	PBM-0002	9/20/2017	1	0.089	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	368	PBM-0002	9/20/2017	1	0.068	ug/l	0.005	0.05
Nitrate + Nitrite-N	2814	368	PBM-0002	9/20/2017	1	4.6	mg/l	2	10
Total Dinitrotoluenes	2814	368	PBM-0002	9/20/2017	1	1.347	ug/l	0.005	0.05
Trichloroethene	2814	368	PBM-0002	9/20/2017	1	0.54	ug/l	0.5	5
2,4-Dinitrotoluene	2814	372	PBM-0006	9/20/2017	1	0.063	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	372	PBM-0006	9/20/2017	1	0.046	ug/l	0.005	0.05
Nitrate + Nitrite-N	2814	372	PBM-0006	9/20/2017	1	3	mg/l	2	10
Total Dinitrotoluenes	2814	372	PBM-0006	9/20/2017	1	0.883	ug/l	0.005	0.05
Trichloroethene	2814	372	PBM-0006	9/20/2017	1	0.86	ug/l	0.5	5
2,4-Dinitrotoluene	2814	374	PBM-0008	9/20/2017	1	0.049	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	374	PBM-0008	9/20/2017	1	0.037	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	374	PBM-0008	9/20/2017	1	0.662	ug/l	0.005	0.05
Trichloroethene	2814	374	PBM-0008	9/20/2017	1	0.71	ug/l	0.5	5
Bromodichloromethane	2814	592	PBN-1003C	9/18/2017	1	0.11	ug/l	0.06	0.6
Chloroform	2814	592	PBN-1003C	9/18/2017	1	0.64	ug/l	0.6	6
Carbon tetrachloride	2814	595	PBN-1001C	9/11/2017	1	1.2	ug/l	0.5	5
Chloroform	2814	595	PBN-1001C	9/11/2017	1	1.2	ug/l	0.6	6
2,4-Dinitrotoluene	2814	613	PBN-8202A	9/20/2017	1	0.059	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	613	PBN-8202A	9/20/2017	2	0.056	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	613	PBN-8202A	9/20/2017	1	0.07	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	613	PBN-8202A	9/20/2017	2	0.066	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	613	PBN-8202A	9/20/2017	1	1.469	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	613	PBN-8202A	9/20/2017	2	1.341	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	614	PBN-8202B	9/20/2017	1	0.055	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	614	PBN-8202B	9/20/2017	1	0.049	ug/l	0.005	0.05
Carbon tetrachloride	2814	614	PBN-8202B	9/20/2017	1	0.8	ug/l	0.5	5
Total Dinitrotoluenes	2814	614	PBN-8202B	9/20/2017	1	0.881	ug/l	0.005	0.05
Trichloroethene	2814	614	PBN-8202B	9/20/2017	1	0.88	ug/l	0.5	5
2,4-Dinitrotoluene	2814	615	PBN-8202C	9/20/2017	1	0.061	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	615	PBN-8202C	9/20/2017	1	0.078	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	615	PBN-8202C	9/20/2017	1	0.377	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	622	PBN-8205A	9/19/2017	1	0.038	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	622	PBN-8205A	9/19/2017	1	0.034	ug/l	0.005	0.05
Carbon tetrachloride	2814	622	PBN-8205A	9/19/2017	1	6.1	ug/l	0.5	5
Total Dinitrotoluenes	2814	622	PBN-8205A	9/19/2017	1	0.8	ug/l	0.005	0.05
Trichloroethene	2814	622	PBN-8205A	9/19/2017	1	1.2	ug/l	0.5	5
2,4-Dinitrotoluene	2814	623	PBN-8205B	9/19/2017	1	0.033	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	623	PBN-8205B	9/19/2017	1	0.035	ug/l	0.005	0.05
Carbon tetrachloride	2814	623	PBN-8205B	9/19/2017	1	4.2	ug/l	0.5	5
Total Dinitrotoluenes	2814	623	PBN-8205B	9/19/2017	1	0.86	ug/l	0.005	0.05

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Trichloroethene	2814	623	PBN-8205B	9/19/2017	1	1.1	ug/l	0.5	5
Carbon tetrachloride	2814	624	PBN-8205C	9/19/2017	1	0.54	ug/l	0.5	5
Total Dinitrotoluenes	2814	624	PBN-8205C	9/19/2017	1	0.338	ug/l	0.005	0.05
Carbon tetrachloride	2814	632	PBN-8502A	9/19/2017	1	14	ug/l	0.5	5
Trichloroethene	2814	632	PBN-8502A	9/19/2017	1	2.4	ug/l	0.5	5
Carbon tetrachloride	2814	633	PBN-8503A	9/19/2017	1	1.7	ug/l	0.5	5
2,6-Dinitrotoluene	2814	645	PBN-8902C	9/19/2017	1	0.0066	ug/l	0.005	0.05
Carbon tetrachloride	2814	645	PBN-8902C	9/19/2017	1	1	ug/l	0.5	5
Total Dinitrotoluenes	2814	645	PBN-8902C	9/19/2017	1	0.0066	ug/l	0.005	0.05
Trichloroethene	2814	645	PBN-8902C	9/19/2017	1	0.7	ug/l	0.5	5
Carbon tetrachloride	2814	665	PBN-9112C	9/19/2017	1	1.2	ug/l	0.5	5
Carbon tetrachloride	2814	665	PBN-9112C	9/19/2017	2	1.2	ug/l	0.5	5
Total Dinitrotoluenes	2814	665	PBN-9112C	9/19/2017	1	0.007	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	665	PBN-9112C	9/19/2017	2	0.0078	ug/l	0.005	0.05
Carbon tetrachloride	2814	668	PBN-9301B	9/18/2017	1	1.9	ug/l	0.5	5
Bromodichloromethane	2814	669	PBN-9301C	9/18/2017	1	0.12	ug/l	0.06	0.6
Carbon tetrachloride	2814	669	PBN-9301C	9/18/2017	1	1.3	ug/l	0.5	5
Chloroform	2814	669	PBN-9301C	9/18/2017	1	0.93	ug/l	0.6	6
Carbon tetrachloride	2814	673	PBN-9303B	9/11/2017	1	2.1	ug/l	0.5	5
Carbon tetrachloride	2814	674	PBN-9303C	9/11/2017	1	3	ug/l	0.5	5
Carbon tetrachloride	2814	674	PBN-9303C	9/11/2017	2	2.9	ug/l	0.5	5
Chloroform	2814	674	PBN-9303C	9/11/2017	1	1.1	ug/l	0.6	6
Chloroform	2814	674	PBN-9303C	9/11/2017	2	1.1	ug/l	0.6	6
Ethyl ether	2814	687	PBN-9304D	9/12/2017	1	3500	ug/l	100	1000
Carbon tetrachloride	2814	692	PBN-9903A	9/13/2017	1	0.93	ug/l	0.5	5
Carbon tetrachloride	2814	693	PBN-9903B	9/13/2017	1	5.2	ug/l	0.5	5
Carbon tetrachloride	2814	693	PBN-9903B	9/13/2017	2	5.3	ug/l	0.5	5
Trichloroethene	2814	693	PBN-9903B	9/13/2017	1	0.52	ug/l	0.5	5
Trichloroethene	2814	693	PBN-9903B	9/13/2017	2	0.51	ug/l	0.5	5
2,6-Dinitrotoluene	2814	694	PBN-9903C	9/13/2017	1	0.029	ug/l	0.005	0.05
Carbon tetrachloride	2814	694	PBN-9903C	9/13/2017	1	14	ug/l	0.5	5
Chloroform	2814	694	PBN-9903C	9/13/2017	1	0.64	ug/l	0.6	6
Total Dinitrotoluenes	2814	694	PBN-9903C	9/13/2017	1	0.029	ug/l	0.005	0.05
Trichloroethene	2814	694	PBN-9903C	9/13/2017	1	1.1	ug/l	0.5	5
Ethyl ether	2814	695	PBN-9903D	9/13/2017	1	590	ug/l	100	1000
Carbon tetrachloride	2814	770	PBN-1302A	9/13/2017	1	2.2	ug/l	0.5	5
Carbon tetrachloride	2814	771	PBN-1302B	9/13/2017	1	2.4	ug/l	0.5	5
Carbon tetrachloride	2814	772	PBN-1302C	9/13/2017	1	4.8	ug/l	0.5	5
Chloroform	2814	772	PBN-1302C	9/13/2017	1	1.2	ug/l	0.6	6
Carbon tetrachloride	2814	775	PBN-1303B	9/12/2017	1	0.68	ug/l	0.5	5
Carbon tetrachloride	2814	775	PBN-1303B	9/12/2017	2	0.62	ug/l	0.5	5
Carbon tetrachloride	2814	776	PBN-1303C	9/12/2017	1	0.61	ug/l	0.5	5
2,4-Dinitrotoluene	2814	782	PBN-1401A	9/20/2017	1	0.011	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	782	PBN-1401A	9/20/2017	1	0.048	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	782	PBN-1401A	9/20/2017	1	0.436	ug/l	0.005	0.05
2,4-Dinitrotoluene	2814	783	PBN-1401B	9/20/2017	1	0.022	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	783	PBN-1401B	9/20/2017	1	0.045	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	783	PBN-1401B	9/20/2017	1	0.309	ug/l	0.005	0.05
2,6-Dinitrotoluene	2814	784	PBN-1401C	9/20/2017	1	0.012	ug/l	0.005	0.05
Total Dinitrotoluenes	2814	784	PBN-1401C	9/20/2017	1	0.04	ug/l	0.005	0.05
Carbon tetrachloride	2814	791	PBN-1404B	9/18/2017	1	2.4	ug/l	0.5	5
Chloroform	2814	791	PBN-1404B	9/18/2017	1	1.3	ug/l	0.6	6
Trichloroethene	2814	791	PBN-1404B	9/18/2017	1	0.85	ug/l	0.5	5
Bromodichloromethane	2814	792	PBN-1404C	9/18/2017	1	0.1	ug/l	0.06	0.6
Carbon tetrachloride	2814	792	PBN-1404C	9/18/2017	1	0.56	ug/l	0.5	5
Chloroform	2814	792	PBN-1404C	9/18/2017	1	0.88	ug/l	0.6	6
Ethyl ether	2814	793	PBN-1404D	9/18/2017	1	430	ug/l	100	1000

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
Ethyl ether	2814	793	PBN-1404D	9/18/2017	2	420	ug/l	100	1000
Carbon tetrachloride	2814	795	PBN-8902BR	9/19/2017	1	2.3	ug/l	0.5	5
Trichloroethene	2814	795	PBN-8902BR	9/19/2017	1	1.3	ug/l	0.5	5

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 2814

Report Date: 10/17/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,3-Dinitrotoluene	360	PBM-9801	9/20/2017	1	0.18	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	360	PBM-9801	9/20/2017	1	0.11	0.0082	0.031	ug/l	0.005	0.05
2,6-Dinitrotoluene	360	PBM-9801	9/20/2017	1	0.2	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	360	PBM-9801	9/20/2017	1	0.058	0.0041	0.031	ug/l		
Total Dinitrotoluenes	360	PBM-9801	9/20/2017	1	0.548	0.0082	0.031	ug/l	0.005	0.05
2,3-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.41	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.059	0.0082	0.031	ug/l	0.005	0.05
2,5-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.015	0.0031	0.031	ug/l		
2,6-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.059	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.11	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	367	PBM-0001	9/20/2017	1	0.048	0.0041	0.031	ug/l		
Carbon tetrachloride	367	PBM-0001	9/20/2017	1	0.19	0.1	0.2	ug/l	0.5	5
Nitrate + Nitrite-N	367	PBM-0001	9/20/2017	1	4.1	0.08	0.3	mg/l	2	10
Total Dinitrotoluenes	367	PBM-0001	9/20/2017	1	0.701	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	367	PBM-0001	9/20/2017	1	0.33	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.7	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.089	0.0082	0.031	ug/l	0.005	0.05
2,5-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.11	0.0031	0.031	ug/l		
2,6-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.068	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.27	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	368	PBM-0002	9/20/2017	1	0.11	0.0041	0.031	ug/l		
Carbon tetrachloride	368	PBM-0002	9/20/2017	1	0.29	0.1	0.2	ug/l	0.5	5
Nitrate + Nitrite-N	368	PBM-0002	9/20/2017	1	4.6	0.08	0.3	mg/l	2	10
Total Dinitrotoluenes	368	PBM-0002	9/20/2017	1	1.347	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	368	PBM-0002	9/20/2017	1	0.54	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.42	0.006	0.03	ug/l		
2,4-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.063	0.008	0.03	ug/l	0.005	0.05
2,5-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.016	0.003	0.03	ug/l		
2,6-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.046	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.27	0.004	0.03	ug/l		
3,5-Dinitrotoluene	372	PBM-0006	9/20/2017	1	0.068	0.004	0.03	ug/l		
Carbon tetrachloride	372	PBM-0006	9/20/2017	1	0.34	0.1	0.2	ug/l	0.5	5
Nitrate + Nitrite-N	372	PBM-0006	9/20/2017	1	3	0.08	0.3	mg/l	2	10
Total Dinitrotoluenes	372	PBM-0006	9/20/2017	1	0.883	0.008	0.03	ug/l	0.005	0.05
Trichloroethene	372	PBM-0006	9/20/2017	1	0.86	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.32	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.049	0.0082	0.031	ug/l	0.005	0.05
2,5-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.02	0.0031	0.031	ug/l		
2,6-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.037	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.17	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	374	PBM-0008	9/20/2017	1	0.066	0.0041	0.031	ug/l		
Carbon tetrachloride	374	PBM-0008	9/20/2017	1	0.29	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	374	PBM-0008	9/20/2017	1	0.662	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	374	PBM-0008	9/20/2017	1	0.71	0.1	0.2	ug/l	0.5	5
Bromodichloromethane	592	PBN-1003C	9/18/2017	1	0.11	0.1	0.2	ug/l	0.06	0.6
Chloroform	592	PBN-1003C	9/18/2017	1	0.64	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	595	PBN-1001C	9/11/2017	1	0.51	0.1	0.2	ug/l	40	200
Carbon tetrachloride	595	PBN-1001C	9/11/2017	1	1.2	0.1	0.2	ug/l	0.5	5

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Chloroform	595	PBN-1001C	9/11/2017	1	1.2	0.1	0.2	ug/l	0.6	6
Ethyl ether	595	PBN-1001C	9/11/2017	1	5.1	0.1	0.2	ug/l	100	1000
2,3-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.83	0.0063	0.031	ug/l		
2,3-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.91	0.0063	0.031	ug/l		
2,4-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.059	0.0083	0.031	ug/l	0.005	0.05
2,4-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.056	0.0083	0.031	ug/l	0.005	0.05
2,5-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.02	0.0031	0.031	ug/l		
2,5-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.019	0.0031	0.031	ug/l		
2,6-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.066	0.0042	0.031	ug/l	0.005	0.05
2,6-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.07	0.0042	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.25	0.0042	0.031	ug/l		
3,4-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.27	0.0042	0.031	ug/l		
3,5-Dinitrotoluene	613	PBN-8202A	9/20/2017	1	0.14	0.0042	0.031	ug/l		
3,5-Dinitrotoluene	613	PBN-8202A	9/20/2017	2	0.12	0.0042	0.031	ug/l		
Carbon tetrachloride	613	PBN-8202A	9/20/2017	2	0.26	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	613	PBN-8202A	9/20/2017	1	0.24	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	613	PBN-8202A	9/20/2017	1	1.469	0.0083	0.031	ug/l	0.005	0.05
Total Dinitrotoluenes	613	PBN-8202A	9/20/2017	2	1.341	0.0083	0.031	ug/l	0.005	0.05
Trichloroethene	613	PBN-8202A	9/20/2017	1	0.35	0.1	0.2	ug/l	0.5	5
Trichloroethene	613	PBN-8202A	9/20/2017	2	0.38	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	614	PBN-8202B	9/20/2017	1	0.54	0.0063	0.031	ug/l		
2,4-Dinitrotoluene	614	PBN-8202B	9/20/2017	1	0.055	0.0083	0.031	ug/l	0.005	0.05
2,6-Dinitrotoluene	614	PBN-8202B	9/20/2017	1	0.049	0.0042	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	614	PBN-8202B	9/20/2017	1	0.15	0.0042	0.031	ug/l		
3,5-Dinitrotoluene	614	PBN-8202B	9/20/2017	1	0.087	0.0042	0.031	ug/l		
Carbon tetrachloride	614	PBN-8202B	9/20/2017	1	0.8	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	614	PBN-8202B	9/20/2017	1	0.881	0.0083	0.031	ug/l	0.005	0.05
Trichloroethene	614	PBN-8202B	9/20/2017	1	0.88	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	615	PBN-8202C	9/20/2017	1	0.15	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	615	PBN-8202C	9/20/2017	1	0.061	0.0082	0.031	ug/l	0.005	0.05
2,6-Dinitrotoluene	615	PBN-8202C	9/20/2017	1	0.078	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	615	PBN-8202C	9/20/2017	1	0.055	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	615	PBN-8202C	9/20/2017	1	0.033	0.0041	0.031	ug/l		
Total Dinitrotoluenes	615	PBN-8202C	9/20/2017	1	0.377	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	615	PBN-8202C	9/20/2017	1	0.17	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	622	PBN-8205A	9/19/2017	1	0.68	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.4	0.0061	0.03	ug/l		
2,4-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.038	0.0081	0.03	ug/l	0.005	0.05
2,5-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.024	0.003	0.03	ug/l		
2,6-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.034	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.23	0.004	0.03	ug/l		
3,5-Dinitrotoluene	622	PBN-8205A	9/19/2017	1	0.074	0.004	0.03	ug/l		
Carbon tetrachloride	622	PBN-8205A	9/19/2017	1	6.1	0.1	0.2	ug/l	0.5	5
Chloroform	622	PBN-8205A	9/19/2017	1	0.27	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	622	PBN-8205A	9/19/2017	1	0.8	0.0081	0.03	ug/l	0.005	0.05
Trichloroethene	622	PBN-8205A	9/19/2017	1	1.2	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	623	PBN-8205B	9/19/2017	1	0.5	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.44	0.0061	0.031	ug/l		
2,4-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.033	0.0082	0.031	ug/l	0.005	0.05
2,5-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.022	0.0031	0.031	ug/l		
2,6-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.035	0.0041	0.031	ug/l	0.005	0.05
3,4-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.22	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	623	PBN-8205B	9/19/2017	1	0.11	0.0041	0.031	ug/l		
Carbon tetrachloride	623	PBN-8205B	9/19/2017	1	4.2	0.1	0.2	ug/l	0.5	5
Chloroform	623	PBN-8205B	9/19/2017	1	0.26	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	623	PBN-8205B	9/19/2017	1	0.86	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	623	PBN-8205B	9/19/2017	1	1.1	0.1	0.2	ug/l	0.5	5

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	624	PBN-8205C	9/19/2017	1	0.17	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	624	PBN-8205C	9/19/2017	1	0.17	0.0061	0.03	ug/l		
3,4-Dinitrotoluene	624	PBN-8205C	9/19/2017	1	0.12	0.004	0.03	ug/l		
3,5-Dinitrotoluene	624	PBN-8205C	9/19/2017	1	0.048	0.004	0.03	ug/l		
Carbon tetrachloride	624	PBN-8205C	9/19/2017	1	0.54	0.1	0.2	ug/l	0.5	5
Chloroform	624	PBN-8205C	9/19/2017	1	0.2	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	624	PBN-8205C	9/19/2017	1	0.338	0.0081	0.03	ug/l	0.005	0.05
Trichloroethene	624	PBN-8205C	9/19/2017	1	0.48	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	632	PBN-8502A	9/19/2017	1	0.96	0.1	0.2	ug/l	40	200
Carbon tetrachloride	632	PBN-8502A	9/19/2017	1	14	0.1	0.2	ug/l	0.5	5
Chloroform	632	PBN-8502A	9/19/2017	1	0.4	0.1	0.2	ug/l	0.6	6
Trichloroethene	632	PBN-8502A	9/19/2017	1	2.4	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	633	PBN-8503A	9/19/2017	1	0.13	0.1	0.2	ug/l	40	200
Carbon tetrachloride	633	PBN-8503A	9/19/2017	1	1.7	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	637	PBM-8907	9/18/2017	1	0.46	0.1	0.2	ug/l	0.5	5
2,6-Dinitrotoluene	645	PBN-8902C	9/19/2017	1	0.0066	0.004	0.03	ug/l	0.005	0.05
Carbon tetrachloride	645	PBN-8902C	9/19/2017	1	1	0.1	0.2	ug/l	0.5	5
Chloroform	645	PBN-8902C	9/19/2017	1	0.37	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	645	PBN-8902C	9/19/2017	1	0.0066	0.0081	0.03	ug/l	0.005	0.05
Trichloroethene	645	PBN-8902C	9/19/2017	1	0.7	0.1	0.2	ug/l	0.5	5
1,2,4-Trimethylbenzene	655	PBN-8912B	9/19/2017	1	0.11	0.1	0.2	ug/l	96	480
Benzene	655	PBN-8912B	9/19/2017	1	0.18	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	655	PBN-8912B	9/19/2017	1	0.47	0.1	0.2	ug/l	0.5	5
Tetrachloroethene	655	PBN-8912B	9/19/2017	1	0.11	0.1	0.2	ug/l	0.5	5
Toluene	655	PBN-8912B	9/19/2017	1	2.9	0.1	0.2	ug/l	160	800
Trichloroethene	655	PBN-8912B	9/19/2017	1	0.37	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	665	PBN-9112C	9/19/2017	2	0.0078	0.006	0.03	ug/l		
2,3-Dinitrotoluene	665	PBN-9112C	9/19/2017	1	0.007	0.006	0.03	ug/l		
Carbon tetrachloride	665	PBN-9112C	9/19/2017	2	1.2	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	665	PBN-9112C	9/19/2017	1	1.2	0.1	0.2	ug/l	0.5	5
Chloroform	665	PBN-9112C	9/19/2017	2	0.39	0.1	0.2	ug/l	0.6	6
Chloroform	665	PBN-9112C	9/19/2017	1	0.41	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	665	PBN-9112C	9/19/2017	2	0.0078	0.006	0.03	ug/l	0.005	0.05
Total Dinitrotoluenes	665	PBN-9112C	9/19/2017	1	0.007	0.006	0.03	ug/l	0.005	0.05
Trichloroethene	665	PBN-9112C	9/19/2017	2	0.45	0.1	0.2	ug/l	0.5	5
Trichloroethene	665	PBN-9112C	9/19/2017	1	0.47	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	668	PBN-9301B	9/18/2017	1	0.4	0.1	0.2	ug/l	40	200
Carbon tetrachloride	668	PBN-9301B	9/18/2017	1	1.9	0.1	0.2	ug/l	0.5	5
Chloroform	668	PBN-9301B	9/18/2017	1	0.51	0.1	0.2	ug/l	0.6	6
Trichloroethene	668	PBN-9301B	9/18/2017	1	0.11	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	669	PBN-9301C	9/18/2017	1	0.93	0.1	0.2	ug/l	40	200
Bromodichloromethane	669	PBN-9301C	9/18/2017	1	0.12	0.1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	669	PBN-9301C	9/18/2017	1	1.3	0.1	0.2	ug/l	0.5	5
Chloroform	669	PBN-9301C	9/18/2017	1	0.93	0.1	0.2	ug/l	0.6	6
Trichloroethene	669	PBN-9301C	9/18/2017	1	0.31	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	673	PBN-9303B	9/11/2017	1	0.81	0.1	0.2	ug/l	40	200
Carbon tetrachloride	673	PBN-9303B	9/11/2017	1	2.1	0.1	0.2	ug/l	0.5	5
Chloroform	673	PBN-9303B	9/11/2017	1	0.38	0.1	0.2	ug/l	0.6	6
Trichloroethene	673	PBN-9303B	9/11/2017	1	0.22	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	674	PBN-9303C	9/11/2017	2	1.3	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	674	PBN-9303C	9/11/2017	1	1.3	0.1	0.2	ug/l	40	200
1,1-Dichloroethene	674	PBN-9303C	9/11/2017	2	0.12	0.1	0.2	ug/l	0.7	7
1,1-Dichloroethene	674	PBN-9303C	9/11/2017	1	0.11	0.1	0.2	ug/l	0.7	7
Carbon tetrachloride	674	PBN-9303C	9/11/2017	2	2.9	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	674	PBN-9303C	9/11/2017	1	3	0.1	0.2	ug/l	0.5	5
Chloroform	674	PBN-9303C	9/11/2017	2	1.1	0.1	0.2	ug/l	0.6	6
Chloroform	674	PBN-9303C	9/11/2017	1	1.1	0.1	0.2	ug/l	0.6	6

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1-Dichloroethane	675	PBN-9303D	9/11/2017	1	0.35	0.1	0.2	ug/l	85	850
Ethyl ether	687	PBN-9304D	9/12/2017	1	3500	50	100	ug/l	100	1000
Ethyl ether	691	PBN-9902D	9/12/2017	1	1.1	0.1	0.2	ug/l	100	1000
Toluene	691	PBN-9902D	9/12/2017	1	0.1	0.1	0.2	ug/l	160	800
Carbon tetrachloride	692	PBN-9903A	9/13/2017	1	0.93	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	693	PBN-9903B	9/13/2017	2	0.24	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	693	PBN-9903B	9/13/2017	1	0.24	0.1	0.2	ug/l	40	200
Carbon tetrachloride	693	PBN-9903B	9/13/2017	1	5.2	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	693	PBN-9903B	9/13/2017	2	5.3	0.1	0.2	ug/l	0.5	5
Chloroform	693	PBN-9903B	9/13/2017	1	0.36	0.1	0.2	ug/l	0.6	6
Chloroform	693	PBN-9903B	9/13/2017	2	0.36	0.1	0.2	ug/l	0.6	6
Trichloroethene	693	PBN-9903B	9/13/2017	2	0.51	0.1	0.2	ug/l	0.5	5
Trichloroethene	693	PBN-9903B	9/13/2017	1	0.52	0.1	0.2	ug/l	0.5	5
2,6-Dinitrotoluene	694	PBN-9903C	9/13/2017	1	0.029	0.0041	0.031	ug/l	0.005	0.05
Carbon tetrachloride	694	PBN-9903C	9/13/2017	1	14	0.1	0.2	ug/l	0.5	5
Chloroform	694	PBN-9903C	9/13/2017	1	0.64	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	694	PBN-9903C	9/13/2017	1	0.029	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	694	PBN-9903C	9/13/2017	1	1.1	0.1	0.2	ug/l	0.5	5
Ethyl ether	695	PBN-9903D	9/13/2017	1	590	5	10	ug/l	100	1000
1,1,1-Trichloroethane	770	PBN-1302A	9/13/2017	1	0.58	0.1	0.2	ug/l	40	200
Carbon tetrachloride	770	PBN-1302A	9/13/2017	1	2.2	0.1	0.2	ug/l	0.5	5
Chloroform	770	PBN-1302A	9/13/2017	1	0.43	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	771	PBN-1302B	9/13/2017	1	0.68	0.1	0.2	ug/l	40	200
Carbon tetrachloride	771	PBN-1302B	9/13/2017	1	2.4	0.1	0.2	ug/l	0.5	5
Chloroform	771	PBN-1302B	9/13/2017	1	0.4	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	772	PBN-1302C	9/13/2017	1	0.57	0.1	0.2	ug/l	40	200
Carbon tetrachloride	772	PBN-1302C	9/13/2017	1	4.8	0.1	0.2	ug/l	0.5	5
Chloroform	772	PBN-1302C	9/13/2017	1	1.2	0.1	0.2	ug/l	0.6	6
Chloroethane	773	PBN-1302D	9/13/2017	1	0.55	0.1	0.2	ug/l	80	400
1,1,1-Trichloroethane	774	PBN-1303A	9/12/2017	1	0.34	0.1	0.2	ug/l	40	200
Carbon tetrachloride	774	PBN-1303A	9/12/2017	1	0.46	0.1	0.2	ug/l	0.5	5
Chloroform	774	PBN-1303A	9/12/2017	1	0.21	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	775	PBN-1303B	9/12/2017	1	0.43	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	775	PBN-1303B	9/12/2017	2	0.43	0.1	0.2	ug/l	40	200
Carbon tetrachloride	775	PBN-1303B	9/12/2017	1	0.68	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	775	PBN-1303B	9/12/2017	2	0.62	0.1	0.2	ug/l	0.5	5
Chloroethane	775	PBN-1303B	9/12/2017	2	1.4	0.1	0.2	ug/l	80	400
Chloroform	775	PBN-1303B	9/12/2017	1	0.24	0.1	0.2	ug/l	0.6	6
Chloroform	775	PBN-1303B	9/12/2017	2	0.24	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	776	PBN-1303C	9/12/2017	1	0.42	0.1	0.2	ug/l	40	200
Carbon tetrachloride	776	PBN-1303C	9/12/2017	1	0.61	0.1	0.2	ug/l	0.5	5
Chloroform	776	PBN-1303C	9/12/2017	1	0.29	0.1	0.2	ug/l	0.6	6
Chloroform	778	PBN-1304A	9/12/2017	1	0.11	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	779	PBN-1304B	9/12/2017	1	0.13	0.1	0.2	ug/l	0.5	5
Chloroethane	779	PBN-1304B	9/12/2017	1	1.2	0.1	0.2	ug/l	80	400
Chloroform	779	PBN-1304B	9/12/2017	1	0.17	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	780	PBN-1304C	9/12/2017	1	0.13	0.1	0.2	ug/l	0.5	5
Chloroform	780	PBN-1304C	9/12/2017	1	0.21	0.1	0.2	ug/l	0.6	6
Chloroform	781	PBN-1304D	9/12/2017	1	0.32	0.1	0.2	ug/l	0.6	6
2,3-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.22	0.0061	0.03	ug/l		
2,4-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.011	0.0081	0.03	ug/l	0.005	0.05
2,5-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.021	0.003	0.03	ug/l		
2,6-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.048	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.093	0.004	0.03	ug/l		
3,5-Dinitrotoluene	782	PBN-1401A	9/20/2017	1	0.043	0.004	0.03	ug/l		
Total Dinitrotoluenes	782	PBN-1401A	9/20/2017	1	0.436	0.0081	0.03	ug/l	0.005	0.05
Trichloroethene	782	PBN-1401A	9/20/2017	1	0.14	0.1	0.2	ug/l	0.5	5

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	783	PBN-1401B	9/20/2017	1	0.13	0.1	0.2	ug/l	40	200
2,3-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.14	0.0061	0.03	ug/l		
2,4-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.022	0.0081	0.03	ug/l	0.005	0.05
2,5-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.016	0.003	0.03	ug/l		
2,6-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.045	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.061	0.004	0.03	ug/l		
3,5-Dinitrotoluene	783	PBN-1401B	9/20/2017	1	0.025	0.004	0.03	ug/l		
Chloroform	783	PBN-1401B	9/20/2017	1	0.11	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	783	PBN-1401B	9/20/2017	1	0.309	0.0081	0.03	ug/l	0.005	0.05
Trichloroethene	783	PBN-1401B	9/20/2017	1	0.12	0.1	0.2	ug/l	0.5	5
2,3-Dinitrotoluene	784	PBN-1401C	9/20/2017	1	0.028	0.0061	0.03	ug/l		
2,6-Dinitrotoluene	784	PBN-1401C	9/20/2017	1	0.012	0.004	0.03	ug/l	0.005	0.05
Chloroform	784	PBN-1401C	9/20/2017	1	0.12	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	784	PBN-1401C	9/20/2017	1	0.04	0.0081	0.03	ug/l	0.005	0.05
1,1,1-Trichloroethane	791	PBN-1404B	9/18/2017	1	0.17	0.1	0.2	ug/l	40	200
Carbon tetrachloride	791	PBN-1404B	9/18/2017	1	2.4	0.1	0.2	ug/l	0.5	5
Chloroform	791	PBN-1404B	9/18/2017	1	1.3	0.1	0.2	ug/l	0.6	6
Trichloroethene	791	PBN-1404B	9/18/2017	1	0.85	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	792	PBN-1404C	9/18/2017	1	0.22	0.1	0.2	ug/l	40	200
Bromodichloromethane	792	PBN-1404C	9/18/2017	1	0.1	0.1	0.2	ug/l	0.06	0.6
Carbon tetrachloride	792	PBN-1404C	9/18/2017	1	0.56	0.1	0.2	ug/l	0.5	5
Chloroform	792	PBN-1404C	9/18/2017	1	0.88	0.1	0.2	ug/l	0.6	6
Trichloroethene	792	PBN-1404C	9/18/2017	1	0.17	0.1	0.2	ug/l	0.5	5
Ethyl ether	793	PBN-1404D	9/18/2017	2	420	5	10	ug/l	100	1000
Ethyl ether	793	PBN-1404D	9/18/2017	1	430	5	10	ug/l	100	1000
1,1,1-Trichloroethane	795	PBN-8902BR	9/19/2017	1	0.11	0.1	0.2	ug/l	40	200
Carbon tetrachloride	795	PBN-8902BR	9/19/2017	1	2.3	0.1	0.2	ug/l	0.5	5
Chloroform	795	PBN-8902BR	9/19/2017	1	0.53	0.1	0.2	ug/l	0.6	6
Trichloroethene	795	PBN-8902BR	9/19/2017	1	1.3	0.1	0.2	ug/l	0.5	5



**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@SpecProSvc.com

Facility name:	License # / Monitoring ID	Facility ID [ FID ]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Deterrent Burning Grounds	03037	157065260	9/5 - 9/7/17

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

September 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 3037  
Deterrent Burning Grounds  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

2,6-Dinitrotoluene (DNT) exceeded the Enforcement Standard (ES) in DBM-8201 (301). Total DNT exceeded the ES in DBM-8201 (301), DBM-8202 (302), DBN-1001B (472), and DBN-1002C (476).

2,6-DNT exceeded the Preventive Action Limit (PAL) in DBM-8202 (302).

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.

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
2,6-Dinitrotoluene	3037	301	DBM-8201	9/7/2017	1	0.095	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	301	DBM-8201	9/7/2017	1	3.365	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	302	DBM-8202	9/7/2017	1	0.025	ug/l	0.005	0.05
2,6-Dinitrotoluene	3037	302	DBM-8202	9/7/2017	2	0.047	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	302	DBM-8202	9/7/2017	1	1.487	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	302	DBM-8202	9/7/2017	2	2.703	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	472	DBN-1001B	9/7/2017	1	0.3	ug/l	0.005	0.05
Total Dinitrotoluenes	3037	476	DBN-1002C	9/6/2017	1	0.665	ug/l	0.005	0.05

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 3037

Report Date: 10/17/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
2,3-Dinitrotoluene	301	DBM-8201	9/7/2017	1	2.4	0.012	0.06	ug/l		
2,6-Dinitrotoluene	301	DBM-8201	9/7/2017	1	0.095	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	301	DBM-8201	9/7/2017	1	0.2	0.004	0.03	ug/l		
3,5-Dinitrotoluene	301	DBM-8201	9/7/2017	1	0.67	0.004	0.03	ug/l		
Total Dinitrotoluenes	301	DBM-8201	9/7/2017	1	3.365	0.008	0.03	ug/l	0.005	0.05
2,3-Dinitrotoluene	302	DBM-8202	9/7/2017	1	0.83	0.0061	0.03	ug/l		
2,3-Dinitrotoluene	302	DBM-8202	9/7/2017	2	1.5	0.0061	0.031	ug/l		
2,6-Dinitrotoluene	302	DBM-8202	9/7/2017	2	0.047	0.0041	0.031	ug/l	0.005	0.05
2,6-Dinitrotoluene	302	DBM-8202	9/7/2017	1	0.025	0.004	0.03	ug/l	0.005	0.05
3,4-Dinitrotoluene	302	DBM-8202	9/7/2017	2	0.056	0.0041	0.031	ug/l		
3,4-Dinitrotoluene	302	DBM-8202	9/7/2017	1	0.032	0.004	0.03	ug/l		
3,5-Dinitrotoluene	302	DBM-8202	9/7/2017	1	0.6	0.004	0.03	ug/l		
3,5-Dinitrotoluene	302	DBM-8202	9/7/2017	2	1.1	0.0041	0.031	ug/l		
Total Dinitrotoluenes	302	DBM-8202	9/7/2017	2	2.703	0.0082	0.031	ug/l	0.005	0.05
Total Dinitrotoluenes	302	DBM-8202	9/7/2017	1	1.487	0.0081	0.03	ug/l	0.005	0.05
2,3-Dinitrotoluene	472	DBN-1001B	9/7/2017	1	0.11	0.0063	0.032	ug/l		
3,4-Dinitrotoluene	472	DBN-1001B	9/7/2017	1	0.19	0.0042	0.032	ug/l		
Total Dinitrotoluenes	472	DBN-1001B	9/7/2017	1	0.3	0.0084	0.032	ug/l	0.005	0.05
2,3-Dinitrotoluene	476	DBN-1002C	9/6/2017	1	0.18	0.0061	0.031	ug/l		
3,4-Dinitrotoluene	476	DBN-1002C	9/6/2017	1	0.46	0.0041	0.031	ug/l		
3,5-Dinitrotoluene	476	DBN-1002C	9/6/2017	1	0.025	0.0041	0.031	ug/l		
Total Dinitrotoluenes	476	DBN-1002C	9/6/2017	1	0.665	0.0082	0.031	ug/l	0.005	0.05

**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 - Southeast Boundary	03038	157005530	9/5/17

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

September 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

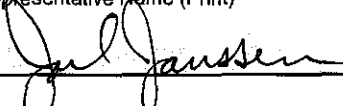
(608) 438-1110

Facility Representative Name (Print)

Title

(Area Code) Telephone No.

Signature



Date

10/18/17

**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 3038  
Southeast Boundary  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

Only one well, S1121 (755), was sampled during this sampling period. No compounds were detected in S1121.

Dinitrotoluene (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.

**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@SpecProSvc.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Off-Site Plume Wells	03485 & 03493	157005530	9/14 - 9/18/17

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

September 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?

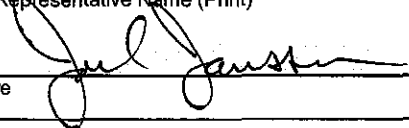
- No. No groundwater standards or explosive gas limits were exceeded.
- Yes, a notification of values exceeding a groundwater standard is attached. It includes a list of monitoring points, dates, sample values, groundwater standard and preliminary analysis of the cause and significance of any concentration.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

10/18/17

**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 3485 & 3493  
Off-Site Plume Wells  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

2,6-Dinitrotoluene (DNT) and total DNT exceeded the Preventive Action Limit (PAL) in PBN-9101C (561).

Carbon tetrachloride exceeded the Enforcement Standard (ES) in PBN-9101C (561) and PBM-9001D (981) and the PAL in SWN-9103B (571), SWN-9103C (572), SWN-9103D (573), SWN-9103E (574), SWN-9104C (575), and SWN-9104D (576).

Chloroform exceeded the PAL in PBN-9101C (561) and PBM-9001D (981).

Trichloroethene exceeded the ES in PBN-9101C (561) and PBM-9001D (981) and the PAL in SWN-9103D (573).

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

DNT analysis was also 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.



# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
Carbon tetrachloride	3485	981	PBM-9001D	9/14/2017	1	16	ug/l	0.5	5
Chloroform	3485	981	PBM-9001D	9/14/2017	1	1.6	ug/l	0.6	6
Trichloroethene	3485	981	PBM-9001D	9/14/2017	1	5	ug/l	0.5	5

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

September 2017

GROUNDWATER MONITORING ALL HITS REPORT

License No: 3485

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Well</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>LOD</b>	<b>LOQ</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
Carbon tetrachloride	981	PBM-9001D	9/14/2017	1	16	0.2	0.4	ug/l	0.5	5
Chloroform	981	PBM-9001D	9/14/2017	1	1.6	0.1	0.2	ug/l	0.6	6
Trichloroethene	981	PBM-9001D	9/14/2017	1	5	0.1	0.2	ug/l	0.5	5

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
2,6-Dinitrotoluene	3493	561	PBN-9101C	9/14/2017	1	0.039	ug/l	0.005	0.05
2,6-Dinitrotoluene	3493	561	PBN-9101C	9/14/2017	2	0.04	ug/l	0.005	0.05
Carbon tetrachloride	3493	561	PBN-9101C	9/14/2017	1	22	ug/l	0.5	5
Carbon tetrachloride	3493	561	PBN-9101C	9/14/2017	2	23	ug/l	0.5	5
Chloroform	3493	561	PBN-9101C	9/14/2017	1	2.2	ug/l	0.6	6
Chloroform	3493	561	PBN-9101C	9/14/2017	2	2.2	ug/l	0.6	6
Total Dinitrotoluenes	3493	561	PBN-9101C	9/14/2017	1	0.039	ug/l	0.005	0.05
Total Dinitrotoluenes	3493	561	PBN-9101C	9/14/2017	2	0.04	ug/l	0.005	0.05
Trichloroethene	3493	561	PBN-9101C	9/14/2017	1	7.1	ug/l	0.5	5
Trichloroethene	3493	561	PBN-9101C	9/14/2017	2	7.2	ug/l	0.5	5
Carbon tetrachloride	3493	571	SWN-9103B	9/14/2017	1	2.1	ug/l	0.5	5
Carbon tetrachloride	3493	572	SWN-9103C	9/14/2017	1	0.83	ug/l	0.5	5
Carbon tetrachloride	3493	573	SWN-9103D	9/14/2017	1	3.8	ug/l	0.5	5
Trichloroethene	3493	573	SWN-9103D	9/14/2017	1	1.2	ug/l	0.5	5
Carbon tetrachloride	3493	574	SWN-9103E	9/14/2017	1	0.74	ug/l	0.5	5
Carbon tetrachloride	3493	575	SWN-9104C	9/14/2017	1	3.2	ug/l	0.5	5
Carbon tetrachloride	3493	576	SWN-9104D	9/14/2017	1	1.5	ug/l	0.5	5

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 3493

Report Date: 10/17/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	561	PBN-9101C	9/14/2017	2	0.44	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	561	PBN-9101C	9/14/2017	1	0.41	0.1	0.2	ug/l	40	200
2,6-Dinitrotoluene	561	PBN-9101C	9/14/2017	1	0.039	0.004	0.03	ug/l	0.005	0.05
2,6-Dinitrotoluene	561	PBN-9101C	9/14/2017	2	0.04	0.0041	0.031	ug/l	0.005	0.05
Carbon tetrachloride	561	PBN-9101C	9/14/2017	2	23	0.2	0.4	ug/l	0.5	5
Carbon tetrachloride	561	PBN-9101C	9/14/2017	1	22	0.2	0.4	ug/l	0.5	5
Chloroform	561	PBN-9101C	9/14/2017	1	2.2	0.1	0.2	ug/l	0.6	6
Chloroform	561	PBN-9101C	9/14/2017	2	2.2	0.1	0.2	ug/l	0.6	6
Total Dinitrotoluenes	561	PBN-9101C	9/14/2017	1	0.039	0.008	0.03	ug/l	0.005	0.05
Total Dinitrotoluenes	561	PBN-9101C	9/14/2017	2	0.04	0.0082	0.031	ug/l	0.005	0.05
Trichloroethene	561	PBN-9101C	9/14/2017	2	7.2	0.1	0.2	ug/l	0.5	5
Trichloroethene	561	PBN-9101C	9/14/2017	1	7.1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	571	SWN-9103B	9/14/2017	1	0.1	0.1	0.2	ug/l	40	200
Carbon tetrachloride	571	SWN-9103B	9/14/2017	1	2.1	0.1	0.2	ug/l	0.5	5
Chloroform	571	SWN-9103B	9/14/2017	1	0.19	0.1	0.2	ug/l	0.6	6
Trichloroethene	571	SWN-9103B	9/14/2017	1	0.23	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	572	SWN-9103C	9/14/2017	1	0.83	0.1	0.2	ug/l	0.5	5
Chloroform	572	SWN-9103C	9/14/2017	1	0.29	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	573	SWN-9103D	9/14/2017	1	3.8	0.1	0.2	ug/l	0.5	5
Chloroform	573	SWN-9103D	9/14/2017	1	0.29	0.1	0.2	ug/l	0.6	6
Trichloroethene	573	SWN-9103D	9/14/2017	1	1.2	0.1	0.2	ug/l	0.5	5
Benzene	574	SWN-9103E	9/14/2017	1	0.22	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	574	SWN-9103E	9/14/2017	1	0.74	0.1	0.2	ug/l	0.5	5
Toluene	574	SWN-9103E	9/14/2017	1	0.79	0.1	0.2	ug/l	160	800
Trichloroethene	574	SWN-9103E	9/14/2017	1	0.27	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	575	SWN-9104C	9/14/2017	1	3.2	0.1	0.2	ug/l	0.5	5
Chloroform	575	SWN-9104C	9/14/2017	1	0.45	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	576	SWN-9104D	9/14/2017	1	1.5	0.1	0.2	ug/l	0.5	5
Chloroform	576	SWN-9104D	9/14/2017	1	0.33	0.1	0.2	ug/l	0.6	6
Chloroform	577	SWN-9105B	9/14/2017	1	0.19	0.1	0.2	ug/l	0.6	6
Chloroform	578	SWN-9105C	9/14/2017	1	0.52	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	579	SWN-9105D	9/14/2017	1	0.2	0.1	0.2	ug/l	0.5	5
Chloroform	579	SWN-9105D	9/14/2017	1	0.37	0.1	0.2	ug/l	0.6	6

**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@SpecProSvc.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	9/6 - 9/7/17

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

September 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

*Joel Janssen*

Date

10/18/17

**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  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Seven (7) wells were sampled to assist with determining the degree and lateral extent of dinitrotoluene (DNT) in the Nitrocellulose Production Area Plume. This plume is located near the former DNT Screen House.

2,6-DNT and total DNT exceeded the Enforcement Standard (ES) in RIM-1002 (478). 2,6-DNT and total DNT exceeded the Preventive Action Limit (PAL) in RIN-1001A (480).

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.

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
2,6-Dinitrotoluene	3487	478	RIM-1002	9/7/2017	1	0.096	ug/l	0.005	0.05
Total Dinitrotoluenes	3487	478	RIM-1002	9/7/2017	1	0.096	ug/l	0.005	0.05
2,6-Dinitrotoluene	3487	480	RIN-1001A	9/6/2017	1	0.032	ug/l	0.005	0.05
Total Dinitrotoluenes	3487	480	RIN-1001A	9/6/2017	1	0.032	ug/l	0.005	0.05

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 3487

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Well</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>LOD</b>	<b>LOQ</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
2,6-Dinitrotoluene	478	RIM-1002	9/7/2017	1	0.096	0.004	0.03	ug/l	0.005	0.05
Total Dinitrotoluenes	478	RIM-1002	9/7/2017	1	0.096	0.0081	0.03	ug/l	0.005	0.05
2,6-Dinitrotoluene	480	RIN-1001A	9/6/2017	1	0.032	0.004	0.03	ug/l	0.005	0.05
Total Dinitrotoluenes	480	RIN-1001A	9/6/2017	1	0.032	0.0081	0.03	ug/l	0.005	0.05



**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@SpecProSvc.com

Facility name: License # / Monitoring ID Facility ID [FID] Actual sampling dates (e.g., July 2-6, 2003)

BAAP - Settling Ponds	03499	157005530	9/13 - 9/18/17
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The enclosed results are for sampling required in the month(s) of: (e.g., June 2003)

September 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 3499  
Settling Ponds  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Contamination from the Propellant Burning Ground largely impacts groundwater quality in wells associated with this license.

Carbon tetrachloride exceeded the Enforcement Standard (ES) in SPN-8904C (721) and the Preventive Action Limit (PAL) in SPN-8903B (718), SPN-8903C (719), and SPN-8904B (720).

Ethyl ether exceeded the ES in SPN-9104D (726).

Trichloroethene exceeded the PAL in SPN-8904B (720).

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

Dinitrotoluene (DNT) analysis was also 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.

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

## GROUNDWATER MONITORING EXCEEDANCE REPORT

September 2017

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Lic No.</b>	<b>Well No.</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
Carbon tetrachloride	3499	718	SPN-8903B	9/18/2017	1	0.94	ug/l	0.5	5
Carbon tetrachloride	3499	719	SPN-8903C	9/18/2017	1	1.1	ug/l	0.5	5
Carbon tetrachloride	3499	720	SPN-8904B	9/13/2017	1	4.9	ug/l	0.5	5
Trichloroethene	3499	720	SPN-8904B	9/13/2017	1	1	ug/l	0.5	5
Carbon tetrachloride	3499	721	SPN-8904C	9/13/2017	1	5.1	ug/l	0.5	5
Ethyl ether	3499	726	SPN-9104D	9/13/2017	1	2200	ug/l	100	1000

# SpecPro Professional Services, LLC

## Badger Army Ammunition Plant

September 2017

### GROUNDWATER MONITORING ALL HITS REPORT

License No: 3499

Report Date: 10/17/2017

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
1,1,1-Trichloroethane	718	SPN-8903B	9/18/2017	1	0.37	0.1	0.2	ug/l	40	200
Carbon tetrachloride	718	SPN-8903B	9/18/2017	1	0.94	0.1	0.2	ug/l	0.5	5
Chloroform	718	SPN-8903B	9/18/2017	1	0.22	0.1	0.2	ug/l	0.6	6
Trichloroethene	718	SPN-8903B	9/18/2017	1	0.36	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	719	SPN-8903C	9/18/2017	1	0.12	0.1	0.2	ug/l	40	200
Carbon tetrachloride	719	SPN-8903C	9/18/2017	1	1.1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	720	SPN-8904B	9/13/2017	1	0.22	0.1	0.2	ug/l	40	200
Carbon tetrachloride	720	SPN-8904B	9/13/2017	1	4.9	0.1	0.2	ug/l	0.5	5
Chloroform	720	SPN-8904B	9/13/2017	1	0.37	0.1	0.2	ug/l	0.6	6
Trichloroethene	720	SPN-8904B	9/13/2017	1	1	0.1	0.2	ug/l	0.5	5
1,1,1-Trichloroethane	721	SPN-8904C	9/13/2017	1	0.25	0.1	0.2	ug/l	40	200
Carbon tetrachloride	721	SPN-8904C	9/13/2017	1	5.1	0.1	0.2	ug/l	0.5	5
Chloroform	721	SPN-8904C	9/13/2017	1	0.28	0.1	0.2	ug/l	0.6	6
Trichloroethene	721	SPN-8904C	9/13/2017	1	0.38	0.1	0.2	ug/l	0.5	5
Ethyl ether	725	SPN-9103D	9/18/2017	1	0.12	0.1	0.2	ug/l	100	1000
Ethyl ether	726	SPN-9104D	9/13/2017	1	2200	25	50	ug/l	100	1000

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- Please type or print legibly.
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- 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@SpecProSvc.com

Facility name:	License # / Monitoring ID	Facility ID [FID]	Actual sampling dates (e.g., July 2-6, 2003)
BAAP - Southeast Area	04330	157005530	8/29/17

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

September 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

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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 4330  
Southeast Area  
September 2017  
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities.

Only one well, SEN-0503B (586), was sampled during this sampling period. No compounds were detected above a groundwater standard.

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

# SpecPro Professional Services, LLC

Badger Army Ammunition Plant

September 2017

GROUNDWATER MONITORING ALL HITS REPORT

License No: 4330

Report Date: 10/17/2017

<b>Parameter Name</b>	<b>Well</b>	<b>Well Name</b>	<b>Date</b>	<b>Dup</b>	<b>Result</b>	<b>LOD</b>	<b>LOQ</b>	<b>Units</b>	<b>PAL</b>	<b>ES</b>
Chloroform	586	SEN-0503B	8/29/2017	1	0.2	0.1	0.2	ug/l	0.6	6

September 2017  
Badger Army Ammunition Plant  
Sampled Wells List

<u>License Area</u>	<u>Well ID</u>	<u>Reporting Name</u>	<u>Date</u>
2813	210	ELN-8203A	9/6/17
2813	211	ELN-8203B	9/6/17
2813	212	ELN-8203C	9/6/17
2813	216	ELM-8901	9/6/17
2813	220	ELM-8907	9/6/17
2813	221	ELM-8908	9/6/17
2813	222	ELM-8909	9/6/17
2813	224	ELN-8902B	9/11/17
2813	227	ELN-9107A	9/5/17
2813	228	ELN-9107B	9/5/17
2813	231	ELN-9402AR	9/11/17
2813	234	ELM-9501	9/5/17
2813	236	S1134R	9/6/17
2813	455	ELN-0801B	9/5/17
2813	456	ELN-0801C	9/5/17
2813	457	ELN-0801E	9/5/17
2813	460	ELN-1001B	9/5/17
2813	461	ELN-1001C	9/5/17
2813	462	ELN-1001E	9/5/17
2813	463	ELN-1002A	9/7/17
2813	464	ELN-1002B	9/7/17
2813	465	ELN-1002C	9/7/17
2813	466	ELN-1002E	9/7/17
2813	467	ELN-1003A	9/12/17
2813	468	ELN-1003B	9/12/17
2813	469	ELN-1003C	9/12/17
2813	470	ELN-1003E	9/12/17
2813	533	ELN-1502A	9/5/17
2813	534	ELN-1502C	9/5/17
2813	535	ELN-1503A	9/12/17
2813	536	ELN-1503C	9/12/17
2813	537	ELN-1504B	9/11/17
2814	360	PBM-9801	9/20/17
2814	367	PBM-0001	9/20/17
2814	368	PBM-0002	9/20/17
2814	372	PBM-0006	9/20/17
2814	374	PBM-0008	9/20/17
2814	592	PBN-1003C	9/18/17
2814	595	PBN-1001C	9/11/17
2814	613	PBN-8202A	9/20/17
2814	614	PBN-8202B	9/20/17
2814	615	PBN-8202C	9/20/17
2814	622	PBN-8205A	9/19/17
2814	623	PBN-8205B	9/19/17
2814	624	PBN-8205C	9/19/17
2814	632	PBN-8502A	9/19/17
2814	633	PBN-8503A	9/19/17
2814	637	PBM-8907	9/18/17
2814	645	PBN-8902C	9/19/17



September 2017  
Badger Army Ammunition Plant  
Sampled Wells List

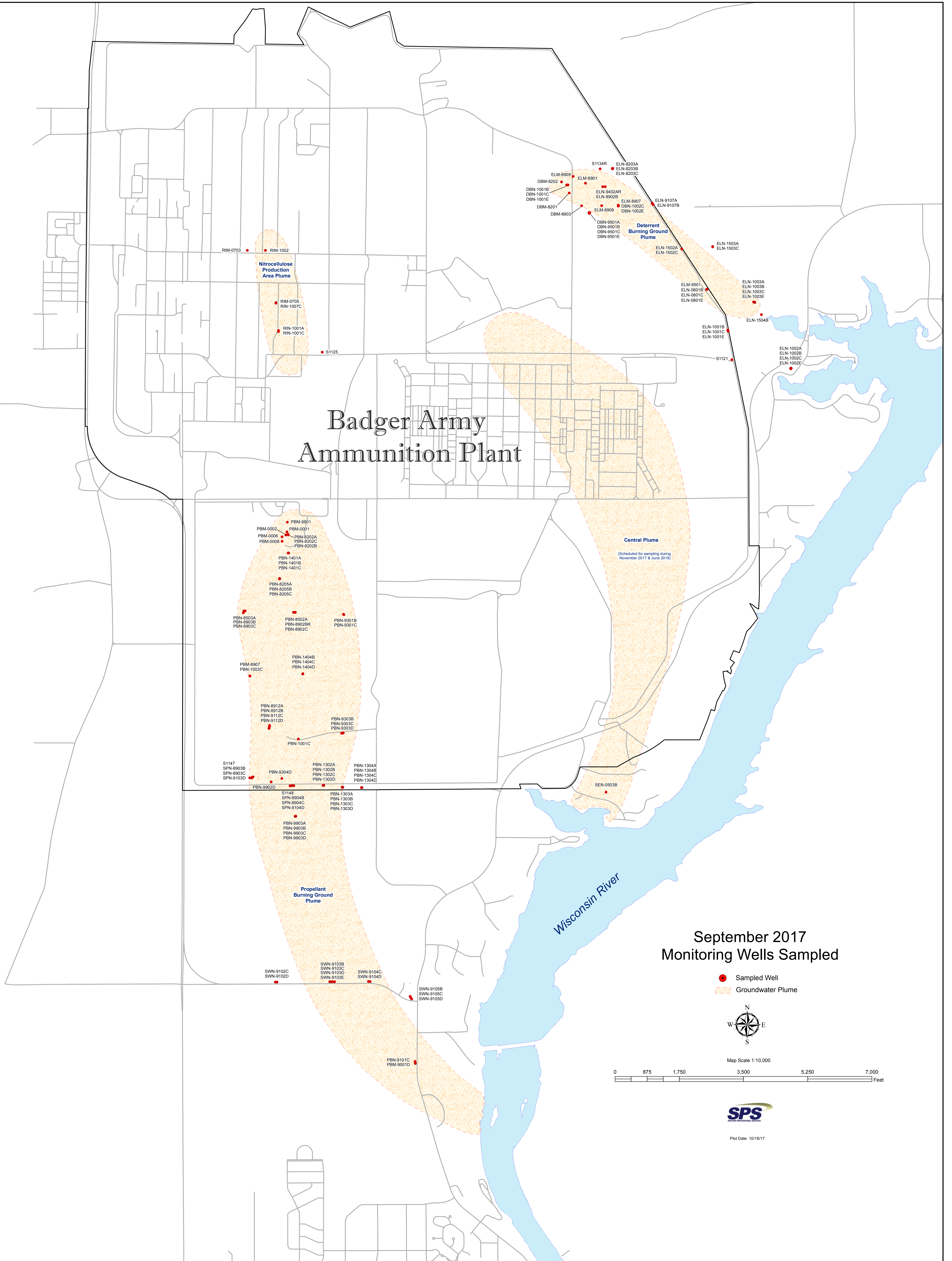
<u>License Area</u>	<u>Well ID</u>	<u>Reporting Name</u>	<u>Date</u>
2814	646	PBN-8903B	9/19/17
2814	647	PBN-8903C	9/19/17
2814	654	PBN-8912A	9/19/17
2814	655	PBN-8912B	9/19/17
2814	665	PBN-9112C	9/19/17
2814	666	PBN-9112D	9/19/17
2814	668	PBN-9301B	9/18/17
2814	669	PBN-9301C	9/18/17
2814	673	PBN-9303B	9/11/17
2814	674	PBN-9303C	9/11/17
2814	675	PBN-9303D	9/11/17
2814	687	PBN-9304D	9/12/17
2814	691	PBN-9902D	9/12/17
2814	692	PBN-9903A	9/13/17
2814	693	PBN-9903B	9/13/17
2814	694	PBN-9903C	9/13/17
2814	695	PBN-9903D	9/13/17
2814	770	PBN-1302A	9/13/17
2814	771	PBN-1302B	9/13/17
2814	772	PBN-1302C	9/13/17
2814	773	PBN-1302D	9/13/17
2814	774	PBN-1303A	9/12/17
2814	775	PBN-1303B	9/12/17
2814	776	PBN-1303C	9/12/17
2814	777	PBN-1303D	9/12/17
2814	778	PBN-1304A	9/12/17
2814	779	PBN-1304B	9/12/17
2814	780	PBN-1304C	9/12/17
2814	781	PBN-1304D	9/12/17
2814	782	PBN-1401A	9/20/17
2814	783	PBN-1401B	9/20/17
2814	784	PBN-1401C	9/20/17
2814	791	PBN-1404B	9/18/17
2814	792	PBN-1404C	9/18/17
2814	793	PBN-1404D	9/18/17
2814	795	PBN-8902BR	9/19/17
3037	301	DBM-8201	9/7/17
3037	302	DBM-8202	9/7/17
3037	306	DBM-8903	9/6/17
3037	314	DBN-9501A	9/5/17
3037	315	DBN-9501B	9/5/17
3037	316	DBN-9501C	9/5/17
3037	317	DBN-9501E	9/5/17
3037	472	DBN-1001B	9/7/17
3037	473	DBN-1001C	9/7/17
3037	474	DBN-1001E	9/7/17
3037	476	DBN-1002C	9/6/17
3037	477	DBN-1002E	9/6/17
3038	755	S1121	9/5/17

September 2017  
Badger Army Ammunition Plant  
Sampled Wells List

<u>License Area</u>	<u>Well ID</u>	<u>Reporting Name</u>	<u>Date</u>
3485	981	PBM-9001D	9/14/17
3487	440	RIM-0703	9/7/17
3487	442	RIM-0705	9/7/17
3487	478	RIM-1002	9/7/17
3487	479	RIN-1007C	9/7/17
3487	480	RIN-1001A	9/6/17
3487	481	RIN-1001C	9/6/17
3487	504	S1125	9/7/17
3493	561	PBN-9101C	9/14/17
3493	569	SWN-9102C	9/18/17
3493	570	SWN-9102D	9/18/17
3493	571	SWN-9103B	9/14/17
3493	572	SWN-9103C	9/14/17
3493	573	SWN-9103D	9/14/17
3493	574	SWN-9103E	9/14/17
3493	575	SWN-9104C	9/14/17
3493	576	SWN-9104D	9/14/17
3493	577	SWN-9105B	9/14/17
3493	578	SWN-9105C	9/14/17
3493	579	SWN-9105D	9/14/17
3499	709	S1147	9/18/17
3499	710	S1148	9/13/17
3499	718	SPN-8903B	9/18/17
3499	719	SPN-8903C	9/18/17
3499	720	SPN-8904B	9/13/17
3499	721	SPN-8904C	9/13/17
3499	725	SPN-9103D	9/18/17
3499	726	SPN-9104D	9/13/17
4330	586	SEN-0503B	8/29/17

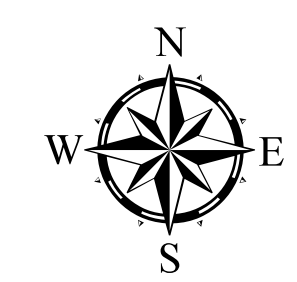


# Badger Army Ammunition Plant

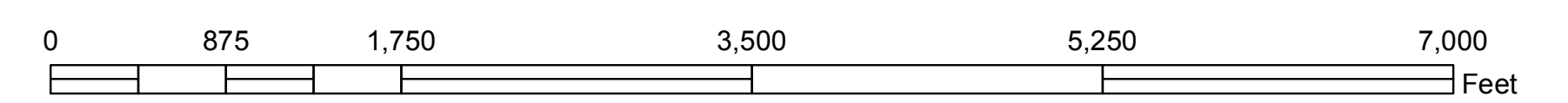


September 2017  
Monitoring Wells Sampled

- Sampled Well
- Groundwater Plume



Map Scale 1:10,000



Plot Date: 10/18/17