



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
US ARMY ENVIRONMENTAL COMMAND
2455 REYNOLDS ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TX 78234-7588

AMIM-AEC-M (1200C)

October 7, 2024

SUBJECT: Submittal of August 2024 Annual Residential Well Testing Results
WDNR BRRTS #02-57-001002
Badger Army Ammunition Plant

Mr. Luke Lampo
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711-5397

Dear Mr. Lampo:

Enclosed are the Badger Army Ammunition Plant (BAAP) August 2024 Annual Residential Well Testing Results from 62 residential wells. Enclosed are copies of the signed Environmental Monitoring Data Certification Form, a list of wells sampled, three maps showing the well locations, and a residential well results summary spreadsheet. Per previous discussions, the Army understands that the WDNR will be sending the results to each well owner.

SpecPro Professional Services, LLC (SPS) collected groundwater samples from 62 residential wells on August 19 - 29 and September 3, 2024. As shown on Figures 1, 2, and 3, the sampled residential wells are distributed to the east and south of BAAP. The Central Plume, Deterrent Burning Ground (DBG) Plume and Propellant Burning Ground (PBG) Plume are located near the residential wells (see Figure 1). The residential wells were sampled in accordance with the annual sampling WDNR Plan Modification of the Groundwater Monitoring Program dated September 4, 2013. Three wells (S7820, S7849 and USDA 1) could not be sampled due to a power issue or broken pipe.

The following two wells were added to the annual residential sampling program: E11823 (886) and WE-AAU638 (919). Residential well E11823 is located on the east side of the PBG Plume and near Dam Heights Rd (see Figure 1). Residential well E11823 was sampled due to its proximity to the PBG Plume and that it's screened in the sand aquifer. Residential well WE-AAU638 was installed in 2022 to a depth of 81 feet (sand) on the eastern side of the Waters' Edge Subdivision and the Central Plume (see Figure 3).

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Residential wells E12375A (803) and S7655 (916) are being sampled quarterly due to their proximity to the DBG Plume (see Figure 1). Residential well WE-XK342 (435) is being sampled quarterly due to its proximity to the Central Plume (see Figure 3). The remaining 59 residential wells were scheduled for annual sampling.

Sampling Results

- 2,4-Dinitrotoluene (DNT) and total DNT were detected above the NR 140 Preventive Action Limit (PAL) but below the NR 140 Enforcement Standard (ES) in residential well S9008A (931) located east of the PBG Plume (see Figure 1). The NR 140 PAL for 2,4-DNT and total DNT is 0.005 micrograms per liter (µg/l). The NR 140 ES for 2,4-DNT and total DNT is 0.05 µg/l. 2,4-DNT was last detected in S9008A during 2015.
- Bromodichloromethane was detected above the NR 140 PAL but below the NR 140 ES in S8723 (152). S8723 is located east of the PBG Plume near the BAAP boundary (see Figure 1). Prior to 2024, bromodichloromethane had not been detected in S8723. Bromodichloromethane has been detected above the NR 140 PAL in several monitoring wells (PBN-1001C, PBN-1404C and PBN-9301C) located in the eastern section of the PBG Plume.
- Carbon tetrachloride (CTET) was detected above the NR 140 PAL but below the NR 140 ES in two residential wells S8795 (875) and S8745 (998). Both residential wells are located on the eastern side of the PBG Plume (see Figure 1).
- Chloroform was detected above the NR 140 PAL but below the NR 140 ES in two residential wells S8723 (152) and WE-SQ001 (165). S8723 is located east of the PBG Plume near the BAAP boundary (see Figure 1). WE-SQ001 is located in the Central Plume (see Figure 3).

Quality Review

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).

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Please do not hesitate to contact me at laura.z.powell2.civ@army.mil or 210-834-5626 if you have any questions.

Sincerely,

NGUYEN.QUAN
G.D.1513629334

Digitally signed by
NGUYEN.QUANG.D.1513629334
Date: 2024.10.07 12:26:54 -05'00'

Quang Nguyen, P.E.
Team Lead, Midwest and Central
America Division
U.S. Army Environmental Command

Enclosures

Copy furn: Joel Janssen, SpecPro Professional Services, LLC

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 Residential Wells	03497	157005530	8/19-8/29/24 & 10/3/24

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

August 2024

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.
- 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 3497
Off-Site Residential Wells
August 2024
Badger Army Ammunition Plant

Groundwater is currently being monitored by the facility because of past production activities. Sixty-two residential wells were sampled during August and September 2024.

2,4-Dinitrotoluene (DNT) and total DNT exceeded the NR 140 Preventive Action Limit (PAL) in S9008A (931). S9008A is located east of the Propellant Burning Ground Plume. 2,4-DNT was last detected in S9008A during 2015.

Bromodichloromethane exceeded the NR 140 PAL in S8723 (152). S8723 is located on the east side of the Propellant Burning Ground Plume.

Carbon tetrachloride exceeded the NR 140 PAL in S8795 (875) and S8745 (998). Both residential wells are located on the east side of the Propellant Burning Ground Plume.

Chloroform exceeded the NR 140 PAL in S8723 (152) and WE-SQ001 (165). WE-SQ001 is located near the Central Plume.

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.

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

GROUNDWATER MONITORING EXCEEDANCE REPORT

August 2024

Report Date: 9/30/2024

Parameter Name	Lic No.	Well No.	Well Name	Date	Dup	Result	Units	PAL	ES
Bromodichloromethane	3497	152	S8723	8/21/2024	1	0.29	ug/l	0.06	0.6
Chloroform	3497	152	S8723	8/21/2024	1	1.2	ug/l	0.6	6
Chloroform	3497	165	WE-SQ001	8/19/2024	1	1.1	ug/l	0.6	6
Carbon tetrachloride	3497	875	S8795	8/21/2024	1	0.7	ug/l	0.5	5
2,4-Dinitrotoluene	3497	931	S9008A	8/21/2024	1	0.013	ug/l	0.005	0.05
Total Dinitrotoluenes	3497	931	S9008A	8/21/2024	1	0.013	ug/l	0.005	0.05
Carbon tetrachloride	3497	998	S8745	8/27/2024	1	0.71	ug/l	0.5	5
Carbon tetrachloride	3497	998	S8745	8/27/2024	2	0.72	ug/l	0.5	5

Badger Army Ammunition Plant

SpecPro Professional Services, LLC

August 2024

GROUNDWATER MONITORING ALL HITS REPORT

License No: 3497

Report Date: 9/30/2024

Parameter Name	Well	Well Name	Date	Dup	Result	LOD	LOQ	Units	PAL	ES
Bromodichloromethane	152	S8723	8/21/2024	1	0.29	0.1	0.2	ug/l	0.06	0.6
Chloroform	152	S8723	8/21/2024	1	1.2	0.1	0.2	ug/l	0.6	6
Dibromochloromethane	152	S8723	8/21/2024	1	0.14	0.1	0.2	ug/l	6	60
Chloroform	157	WE-QR441	8/20/2024	1	0.22	0.1	0.2	ug/l	0.6	6
Chloroform	158	WE-QN039	8/19/2024	1	0.46	0.1	0.2	ug/l	0.6	6
Chloroform	164	WE-SQ017	8/19/2024	1	0.58	0.1	0.2	ug/l	0.6	6
Chloroform	165	WE-SQ001	8/19/2024	1	1.1	0.1	0.2	ug/l	0.6	6
1,2-Dichloropropane	425	S7880	9/3/2024	1	0.18	0.1	0.2	ug/l	0.5	5
Chloroform	435	WE-XK342	8/19/2024	1	0.1	0.1	0.2	ug/l	0.6	6
Chloroform	435	WE-XK342	8/19/2024	1	0.11	0.1	0.2	ug/l	0.6	6
1,1-Dichloroethane	800	S8732	8/21/2024	1	0.11	0.1	0.2	ug/l	85	850
Ethyl ether	840	S8871	8/21/2024	1	0.24	0.1	0.2	ug/l	100	1000
Methyl tert-butyl ether	860	E12653	8/29/2024	1	0.23	0.1	0.2	ug/l	12	60
Chloroform	862	S9059A	8/21/2024	1	0.11	0.1	0.2	ug/l	0.6	6
1,1,1-Trichloroethane	875	S8795	8/21/2024	1	0.31	0.1	0.2	ug/l	40	200
Carbon tetrachloride	875	S8795	8/21/2024	1	0.7	0.1	0.2	ug/l	0.5	5
Chloroform	875	S8795	8/21/2024	1	0.2	0.1	0.2	ug/l	0.6	6
Carbon tetrachloride	886	E11823	8/21/2024	1	0.18	0.1	0.2	ug/l	0.5	5
Chloroform	886	E11823	8/21/2024	1	0.15	0.1	0.2	ug/l	0.6	6
1,1-Dichloroethane	917	S8839	8/21/2024	1	0.14	0.1	0.2	ug/l	85	850
Ethyl ether	924	S9104	8/21/2024	1	0.44	0.1	0.2	ug/l	100	1000
2,4-Dinitrotoluene	931	S9008A	8/21/2024	1	0.013	0.0079	0.05	ug/l	0.005	0.05
Carbon tetrachloride	931	S9008A	8/21/2024	1	0.33	0.1	0.2	ug/l	0.5	5
Total Dinitrotoluenes	931	S9008A	8/21/2024	1	0.013	0.0079	0.05	ug/l	0.005	0.05
Ethyl ether	948	11752A	8/21/2024	1	0.36	0.1	0.2	ug/l	100	1000
1,1,1-Trichloroethane	998	S8745	8/27/2024	2	0.29	0.1	0.2	ug/l	40	200
1,1,1-Trichloroethane	998	S8745	8/27/2024	1	0.31	0.1	0.2	ug/l	40	200
Carbon tetrachloride	998	S8745	8/27/2024	1	0.71	0.1	0.2	ug/l	0.5	5
Carbon tetrachloride	998	S8745	8/27/2024	2	0.72	0.1	0.2	ug/l	0.5	5
Chloroform	998	S8745	8/27/2024	2	0.18	0.1	0.2	ug/l	0.6	6
Chloroform	998	S8745	8/27/2024	1	0.22	0.1	0.2	ug/l	0.6	6

Residential Well Sampling List
August 2024

Well Name	Well ID	Date Sampled	Results	DNT Sampled	VOC Sampled	Comments
USDA 3	126	8/20/24	X	X		duplicate
USDA 6	128	8/27/24	X	X		
WE-TM599	129	8/20/24	X	X		
S8723	152	8/21/24	X	X	X	
WE-RM383	153	8/19/24	X	X		
WE-RR542	156	8/20/24	X	X		
WE-QR441	157	8/20/24	X	X	X	
WE-QN039	158	8/19/24	X	X	X	
WE-RD430	159	8/19/24	X	X		
S7703A	163	8/20/24	X	X	X	
WE-SQ017	164	8/19/24	X	X	X	
WE-SQ001	165	8/19/24	X	X	X	
WE-RR598	169	8/19/24	X	X		
WE-SQ002	170	8/19/24	X	X		
WE-TF023	174	8/19/24	X	X		
E12615	411	8/29/24	X	X	X	
S7816	412	8/29/24	X	X	X	
E12655	414	8/27/24	X	X	X	
E12645	415	8/29/24	X	X	X	duplicate
E12649B	417	8/27/24	X	X	X	
E12649A	418	8/29/24	X	X	X	
S7832	419	8/29/24	X	X	X	
S7830	422	8/29/24	X	X	X	
E12601	423	8/29/24	X	X	X	
S7820	424					power was off; no sample collected
S7880	425	9/3/24	X	X	X	
S7814	426	8/29/24	X	X	X	
E12526	427	8/29/24	X	X	X	
S7882	428	8/29/24	X	X	X	
WE-UK125	431	8/19/24	X	X		
WE-UA297	433	8/20/24	X	X		
WE-XD828	434	8/19/24	X	X		
WE-XK342	435	8/19/24	X	X	X	duplicate
WE-YW972	436	8/20/24	X	X		
WE-ZE512	437	8/19/24	X	X	X	
E12455	796	8/20/24	X	X	X	
WE-AAB891	799	8/20/24	X	X	X	
S8732	800	8/21/24	X	X	X	
E12375A	803	8/20/24	X	X	X	
E12637	817	8/29/24	X	X	X	
USDA 1	828					power was off; no sample collected
USDA 2	829	8/20/24	X	X		
WE-AAF735	837	8/20/24	X	X	X	
E12092	838	8/20/24	X	X		

Residential Well Sampling List
August 2024

Well Name	Well ID	Date Sampled	Results	DNT Sampled	VOC Sampled	Comments
S7856	839	8/29/24	X	X	X	
S8871	840	8/21/24	X	X	X	
S7849	842					pipe broken to faucet; no sample collected
S9093A	847	8/21/24	X	X	X	
E12653	860	8/29/24	X	X	X	
S9059A	862	8/21/24	X	X	X	
S7722	874	8/27/24	X	X	X	
S8795	875	8/21/24	X	X	X	
E11823	886	8/21/24	X	X	X	well added to annual sampling in 2024
E12534	891	8/29/24	X	X	X	
E12629	904	8/29/24	X	X	X	
PDS-3	911	8/29/24	X	X	X	
S7655	916	8/20/24	X	X	X	
S8839	917	8/21/24	X	X	X	
WE-AAU638	919	8/19/24	X	X	X	new well
S9104	924	8/21/24	X	X	X	
S9008A	931	8/21/24	X	X	X	
E11752A	948	8/21/24	X	X	X	
S7877	967	8/27/24	X	X	X	
S9179	970	8/21/24	X	X	X	duplicate
S8745	998	8/27/24	X	X	X	duplicate

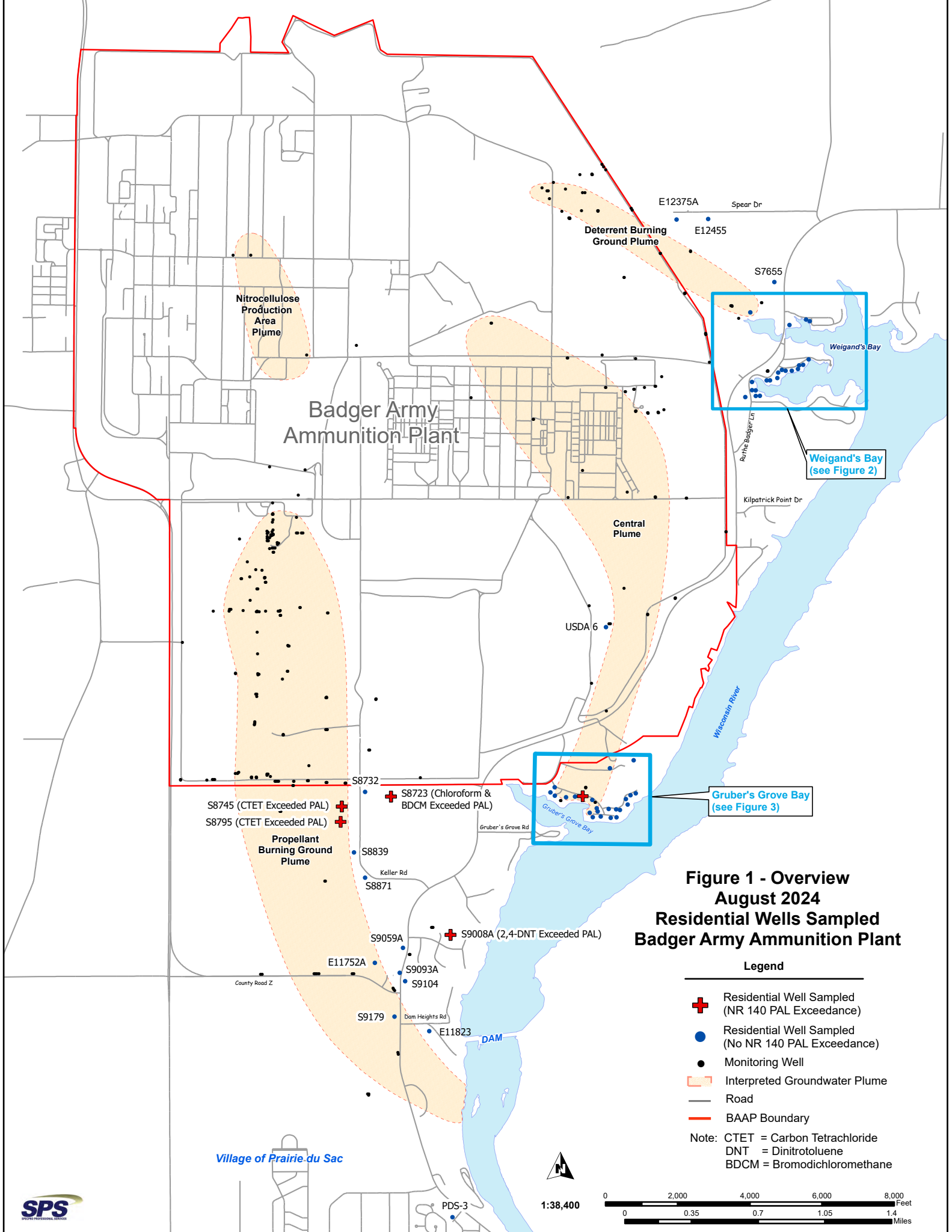
**Residential Groundwater Test Results - August 2024 Sampling Event
Badger Army Ammunition Plant**

					All results are expressed as µg/l (micrograms per liter)																
					Bromochloromethane	Carbon Tetrachloride	Chloroform	Dibromochloromethane	Ethyl Ether	Methyl tert-butyl ether	1,1-Dichloroethane	1,2-Dichloropropane	1,1,1-Trichloroethane	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2,3-Dinitrotoluene	3,4-Dinitrotoluene	2,5-Dinitrotoluene	3,5-Dinitrotoluene	Dinitrotoluene, Total	
Well Name	Well No.	Comments	Analyzed By	Sample Date																	
S8723	152		CT Lab	8/21/2024	0.29	ND	1.2	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7703A	163	(Army installed new well - 2019)	CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12615	411		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7816	412		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12655	414		CT Lab	8/27/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12645	415		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
			CT Lab (D)	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12649B	417		CT Lab	8/27/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12649A	418		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7832	419		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7830	422		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12601	423		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7820	424				Power was off; sample not collected																
S7880	425		CT Lab	9/3/2024	ND	ND	ND	ND	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND	ND	ND	
S7814	426		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12526	427		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7882	428		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12455	796		CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S8732	800		CT Lab	8/21/2024	ND	ND	ND	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12375A	803		CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12637	817		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12092	838		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	
S7856	839		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S8871	840		CT Lab	8/21/2024	ND	ND	ND	ND	0.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7849	842				Pipe broken to faucet; sample not collected																
S9093A	847		CT Lab	8/21/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12653	860		CT Lab	8/29/2024	ND	ND	ND	ND	ND	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S9059A	862		CT Lab	8/21/2024	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7722	874		CT Lab	8/27/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S8795	875		CT Lab	8/21/2024	ND	0.7	0.2	ND	ND	ND	ND	0.31	ND	ND	ND	ND	ND	ND	ND	ND	
E11823	886	(well added to annual sampling in 2024)	CT Lab	8/21/2024	ND	0.18	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12534	891		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
E12629	904		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
PDS-3	911		CT Lab	8/29/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S7655	916		CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S8839	917		CT Lab	8/21/2024	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S9104	924		CT Lab	8/21/2024	ND	ND	ND	ND	0.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
S9008A	931		CT Lab	8/21/2024	ND	0.33	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	ND	ND	ND	0.013	
E11752A	948		CT Lab	8/21/2024	ND	ND	ND	ND	0.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

**Residential Groundwater Test Results - August 2024 Sampling Event
Badger Army Ammunition Plant**

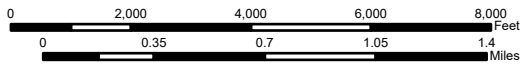
					All results are expressed as µg/l (micrograms per liter)																
Well Name	Well No.	Comments	Analyzed By	Sample Date	Bromodichloromethane	Carbon Tetrachloride	Chloroform	Dibromochloromethane	Ethyl Ether	Methyl tert-butyl ether	1,1-Dichloroethane	1,2-Dichloropropane	1,1,1-Trichloroethane	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2,3-Dinitrotoluene	3,4-Dinitrotoluene	2,5-Dinitrotoluene	3,5-Dinitrotoluene	Dinitrotoluene, Total	
S7877	967		CT Lab	8/27/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
S9179	970		CT Lab	8/21/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
			CT Lab (D)	8/21/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
S8745	998		CT Lab	8/27/2024	ND	0.71	0.22	ND	ND	ND	ND	ND	0.31	ND	ND	ND	ND	ND	ND	ND	ND
			CT Lab (D)	8/27/2024	ND	0.72	0.18	ND	ND	ND	ND	ND	ND	0.29	ND	ND	ND	ND	ND	ND	ND
WE-TM599	129		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-RM383	153		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-RR542	156		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-QR441	157		CT Lab	8/20/2024	ND	ND	0.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-QN039	158		CT Lab	8/19/2024	ND	ND	0.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-RD430	159		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-SQ017	164		CT Lab	8/19/2024	ND	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-SQ001	165		CT Lab	8/19/2024	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-RR598	169		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-SQ002	170		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-TF023	174		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-UK125	431		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-UA297	433		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-XD828	434		CT Lab	8/19/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-XK342	435		CT Lab	8/19/2024	ND	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-XK342	435		CT Lab (D)	8/19/2024	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-YW972	436		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
WE-ZE512	437		CT Lab	8/19/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-AAB891	799		CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-AAF735	837		CT Lab	8/20/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WE-AAU638	919	(new well installed - 2022)	CT Lab	8/19/2024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
USDA 1	828				Power was off; sample not collected																
USDA 2	829		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
USDA 3	126		CT Lab	8/20/2024										ND	ND	ND	ND	ND	ND	ND	ND
			CT Lab (D)	8/20/2024											ND	ND	ND	ND	ND	ND	ND
USDA 6	128		CT Lab	8/27/2024										ND	ND	ND	ND	ND	ND	ND	ND

(D) = Duplicate
CT Lab = CT Laboratories, LLC

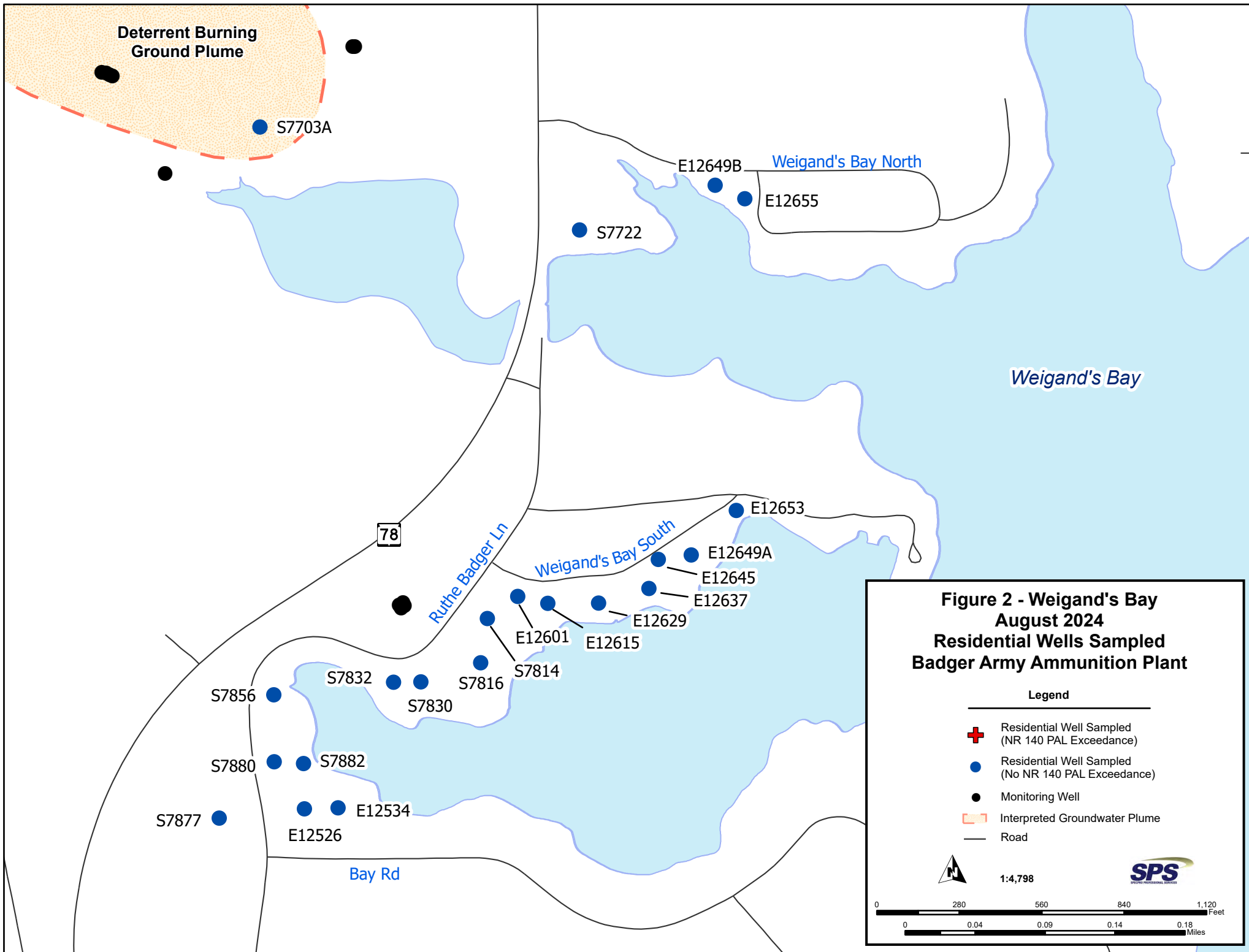


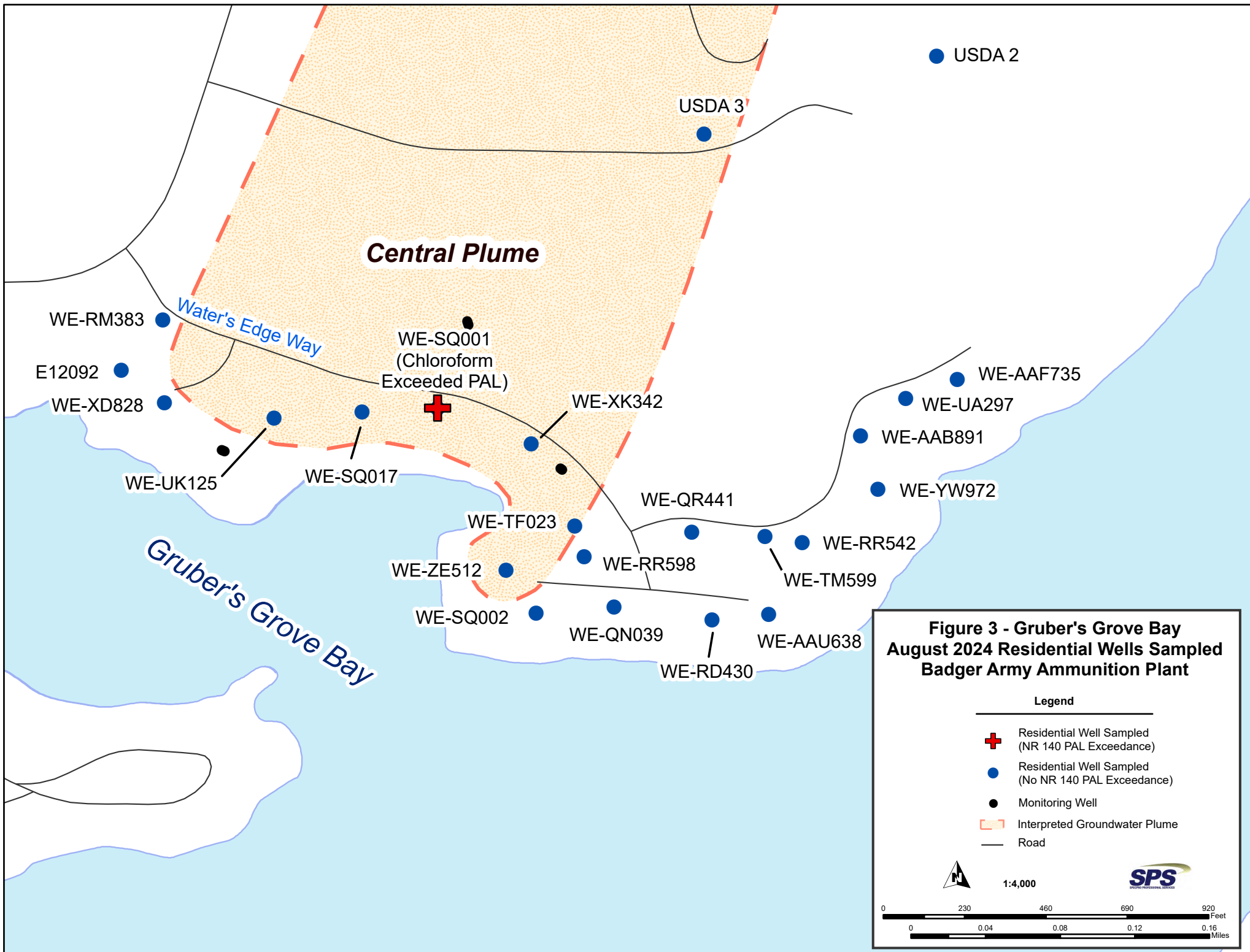
**Figure 1 - Overview
August 2024
Residential Wells Sampled
Badger Army Ammunition Plant**

- Legend**
- + Residential Well Sampled (NR 140 PAL Exceedance)
 - Residential Well Sampled (No NR 140 PAL Exceedance)
 - Monitoring Well
 - Interpreted Groundwater Plume
 - Road
 - BAAP Boundary
- Note: CTET = Carbon Tetrachloride
DNT = Dinitrotoluene
BDCM = Bromodichloromethane



1:38,400





● USDA 2

USDA 3

Central Plume

Water's Edge Way

WE-RM383

E12092

WE-XD828

WE-UK125

WE-SQ017

WE-SQ001
(Chloroform Exceeded PAL)

WE-XK342

WE-TF023

WE-ZE512

WE-SQ002

WE-QN039

WE-QR441

WE-RR598

WE-RR542

WE-TM599

WE-AAU638

WE-RD430

WE-AAF735

WE-UA297

WE-AAB891

WE-YW972

Gruber's Grove Bay

Figure 3 - Gruber's Grove Bay August 2024 Residential Wells Sampled Badger Army Ammunition Plant

Legend

- + Residential Well Sampled (NR 140 PAL Exceedance)
- Residential Well Sampled (No NR 140 PAL Exceedance)
- Monitoring Well
- Interpreted Groundwater Plume
- Road



1:4,000

